MEETING NOTICE AND AGENDA

MANSFIELD PLANNING AND ZONING COMMISSION

Regular Meeting

Monday, November 19, 2012 ▪ 7:05 PM

Audrey P. Beck Municipal Building ▪ 4 South Eagleville Road ▪ Council Chambers

1. **Call to Order**

2. **Roll Call**

3. **Approval of Minutes**
   a. November 5, 2012 Regular Meeting
   b. November 14, 2012 Field Trip Minutes

4. **Zoning Agent's Report**
   - Monthly Activity Update
   - Enforcement Update
   - Other

5. **Public Hearings**

   7:05 p.m.
   Special Permit Application, Seasonal Aerial Forest Ropes Course, west of Baxter Road on Storrs Road; Kueffner/Stoddard, owner/applicant: PZC File #1313
   Memos from Director of Planning and Development, Assistant Town Engineer, Fire Marshal, EHHD

   7:15 p.m.
   Draft Revisions to Zoning Regulations Pertaining to Signs, Non-Conforming Buildings and Parking/Driveway Requirements
   Memos from Director of Planning and Development, Fire Marshal, Town Attorney

   7:20 p.m.
   Special Permit Application, 54 residential apartments, 73 Meadowbrook Lane, Whispering Glen-Lakeway Farms, L.P., owner/applicant: PZC File #1284-2
   To be tabled pending submission of revised plans from applicant; public hearing to be continued to December 3, 2012

   7:21 p.m.
   Special Permit Application, Assembly/Banquet Hall and associated uses, 476 Storrs Road; Healey, owner/applicant: PZC File #1312
   To be tabled at the request of the applicant; public hearing to be continued to December 3, 2012

6. **Old Business**

   a. **Application to Amend the Mansfield Zoning Map-Storrs Center Special Design District/Master Plan, Storrs Center Alliance, LLC, owner/applicant: PZC File #1246-10**

   b. **Special Permit Application, Seasonal Aerial Forest Ropes Course, west of Baxter Road on Storrs Road; Kueffner/Stoddard, owner/applicant: PZC File #1313**

c. **Draft Revisions to Zoning Regulations Pertaining to Signs, Non-Conforming Buildings and Parking/Driveway Requirements**

d. **Special Permit Application, 54 residential apartments, 73 Meadowbrook Lane, Whispering Glen-Lakeway Farms, L.P., owner/applicant: PZC File #1284-2**
(Tabled pending revised plans from the applicant)

e. **Special Permit Application, Assembly/Banquet Hall and associated uses, 476 Storrs Road; Healey, owner/applicant: PZC File #1312**
(Tabled at the request of the applicant)

f. **Subdivision Application, Beacon Hill Estates, Section II, Mansfield City Road, west of Beacon Hill Road; Eagleville Development Group, LLC, applicant: PZC File #1214-3**
(Tabled-Public Hearing on 1/7/13)

g. **Other**

7. **New Business**

a. **8-24 Referral: Proposed acquisition of Marshall Property (Dunhamtown Forest Area; located north of Mansfield City Road and west of White Oak Road)**
Memo from Director of Planning and Development

b. **8-24 Referral: Proposed acquisition of Malek Property (Wolf Rock Preserve Area; located northwest of Sawbrook Mill Lane)**
Memo from Director of Planning and Development

c. **New Special Permit Application, Efficiency Unit, 22 Russett Lane, Jorgensen owner/applicant; PZC File #1314**

d. **University of Connecticut Draft Water Supply Environmental Impact Evaluation (EIE)**
Memo from Director of Planning and Development

e. **Mansfield Tomorrow | Our Plan ▸ Our Future**

f. **Other**

8. **Reports from Officers and Committees**
   a. **Chairman's Report**
   b. **Regional Planning Commission**
   c. **Regulatory Review Committee**
   d. **Planning and Development Director's Report**
   e. **Other**

9. **Communications and Bills**
   a. Fall 2012 UConn Enrollment figures
   b. ZBA 11/14/12 Decision Notice
   c. Other

10. **Adjournment**

DRAFT MINUTES
MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting
Monday, November 5, 2012
Council Chamber, Audrey P. Beck Municipal Building

Members present:	J. Goodwin (Chairman), B. Chandy, R. Hall, K. Holt, G. Lewis, P. Plante B. Pociask, K. Rawn, B. Ryan
Alternates present:	A. Marcellino, V. Ward, S. Westa
Staff Present:	Linda Painter, Director of Planning and Development Curt Hirsch, Zoning Agent

Chairman Goodwin called the meeting to order at 7:12 p.m., appointing Marcellino to act if a member was disqualified if needed.
Holt MOVED, Ryan seconded, to add to the agenda under New Business, discussion of the HUD Grant. MOTION PASSED UNANIMOUSLY.

Minutes:
10-15-12 Meeting Minutes- Chandy MOVED, Hall seconded, to approve the 10/15/12 meeting minutes as written. MOTION PASSED UNANIMOUSLY. Holt, Plante and Pociask noted that they listened to the recording of the 10-15-12 meeting.

Zoning Agent's Report: Noted.

Public Hearings:

Live Music Permit Renewals
Chairman Goodwin opened the Public Hearing at 7:14 p.m. Members present were J. Goodwin, B. Chandy, R. Hall, K. Holt, G. Lewis, P. Plante B. Pociask, K. Rawn, B. Ryan, and alternates A. Marcellino, V. Ward, S. Westa, none of whom were seated. Linda Painter, Director of Planning and Development, read the legal notice as it appeared in the Chronicle on 10-23-12 and 10-31-12 and noted the following communications received and distributed to the Commission members: a 10-26-12 report from Curt Hirsch, Zoning Agent.

Hirsch noted no complaints have been received regarding any of these establishments. Chairman Goodwin noted no questions or comments from the public or the Commission. Holt MOVED, Rawn seconded, to close the Public Hearing at 7:16 p.m. MOTION PASSED UNANIMOUSLY.

New Special Permit Application, 54 residential apartments, 73 Meadowbrook Lane, Whispering Glen-Lakeway Farms, L.P., owner/applicant: PZC File #1284-2
Chairman Goodwin opened the continued Public Hearing at 7:17 p.m. Members present were J. Goodwin, B. Chandy, R. Hall, K. Holt, G. Lewis, P. Plante B. Pociask, K. Rawn, B. Ryan, and alternates A. Marcellino, V. Ward, S. Westa, none of whom were seated. Linda Painter, Director of Planning and Development, noted the following communications received and distributed to the Commission members: 11-1-12 memo from Linda Painter, Director of Planning and Development; and 10-23-12 comments from Open Space Preservation Committee.

Patrick Lafayette, the project engineer from Development Solutions, briefly reviewed existing and probable revisions to plans based on comments from staff. He noted that actual revisions will be made and submitted to staff prior to the next meeting, to be presented at the next meeting.

Chairman Goodwin then asked for comments from the public.

Ray Haddad, 129 Conantville Road, expressed concern with traffic safety.

Tom Peters, 27 Michelle Lane, wondered why his neighbors were notified and he was not. Painter explained that his property was located just outside the 500' notification boundary. He later submitted a letter in opposition and expressed concern for the safety of cyclists and pedestrians, stating that he was struck by a car on this road while bicycling.

Scott Ripley, 64 Meadowbrook Lane, expressed concern with pedestrian safety, noting there are over 35 houses in the area, most of which have children.

Jessica Higham, 14 Adeline Place, who is moving to 97 Meadowbrook Lane, submitted a letter of opposition and requested that the Commission deny the application. She stated that she may not have purchased the abutting property if she had known about the proposal, and that Mansfield does not need any more apartments. She expressed concern for the increase in traffic and safety for pedestrians and cyclists.

William and Sarah Kaufold, 7 Michelle Lane, submitted a letter of opposition for the record.

Marianne Barton and David Henry, 8 Adeline Place, submitted a letter of opposition for the record, emphasizing the concern for the increase in traffic and safety on the roads surrounding the area. They feel the proposal will threaten the health and safety of the residents.

Karen, Tony, Jack and Megan Molloy, 18 Adeline Place, submitted a letter of opposition, noting the safety of pedestrians on the road is a great concern because there is no shoulder or sidewalk. They also noted how difficult and dangerous the intersection of 195 and Conantville Road is for those entering or exiting this intersection.

Chairman Goodwin noted no further comments or questions from the public or Commission. At 7:46 p.m. Plante MOVED, Holt seconded, to continue the Public Hearing until 11-19-12. MOTION PASSED UNANIMOUSLY.

New Special Permit Application, Assembly/Banquet Hall and associated uses, 476 Storrs Road; Healey, owner/applicant: PZC File #1312

Chairman Goodwin opened the continued Public Hearing at 7:50 p.m. Members present were J. Goodwin, B. Chandy, R. Hall, K. Holt, G. Lewis, P. Plante B. Pociask, K. Rawn, B. Ryan, and alternates A. Marcellino, V. Ward, S. Westa, none of whom were seated. Linda Painter, Director of Planning and Development, read a revised legal notice that appeared in The Chronicle on 10-23-12 and 10-31-12 and noted the following communications received and distributed to the Commission members: 11-1-12 memo from Linda Painter, Director of Planning and Development; 11-1-12 letter of extension from applicant to allow continuation of the public hearing past November 5, 2012 (30 day extension granted via email on November 1, 2012); 10-17-12 email from Michael Soares; 11-1-12 letter from Fiona Leek, 11 Echo Road; 10-19-12 email from Anne Crouse, 502 Storrs Road, Apt 1; 10-16-12 letter from A. Kardestuncer; 10-31-12 letter from Eric Grove, 72 Cemetery Road; 11-5-12 dated letter (submitted on 11/1/12) from Bill Petix, with attachments; Noise study titled "Estimated Sound Level Determinations" prepared by Fuss & O'Neill and dated October 25, 2012; Event rental and operating policy; Summary of Changes to the application dated November 1, 2012; Revised Statement of Use dated October 25, 2012; Revised plans dated October 25, 2012, including revised elevations, section and floor plan for the barn; Elevations of proposed addition to house (front, rear and north side) dated October 25, 2012; Attendant parking plan dated October 25, 2012; Letter of support from Representative Tim Ackert; Letters of support for a 2011 barn grant application.

Michael Healey, applicant, reviewed his changes to the plans and noted the reports listed above, submitted as part of the record. He noted that the Zlotnick Family and the owner of HST have both verbally agreed to allow their properties to be used for overflow parking. Healey added that he would primarily use those properties for employee and event staff parking.

After a lengthy presentation, members posed questions to the applicant that included: how he arrived at the figures for the pie chart submitted as an illustration of uses for the property; consideration to eliminating the outside deck to control noise; the effect that noise will have on the residents of Echo Road due to the topography that causes those residents to hear noise from such a far distance.

The Chairman asked for comments from the public.

Bill Petix, Echo Road, clarifying a comment made by the applicant, to wit, the music they hear from Mansfield Hollow Dam during events is during the day and not at 9 p.m.

Julia Sherman, Pinewood Lane, is concerned about noise and outside ceremonies. She noted that all the "conditions" that will be necessary for approval would require a Town employee to monitor them. She also feels that overflow parking is not an appropriate use of Town Open Space, and this is not the right location for a wedding-venue use.

Jennifer Oliver, Echo Road, stated that this application is just too complicated because it doesn't "fit" in this area. She fears staff won't be able to control the behavior of people who typically attend weddings and that extra law enforcement would be needed. She stated that law officials in Town are already overburdened.

Michael Bryse, Candide Lane, expressed support for the application, noting that there is no good place to hold training sessions and seminars locally. He feels this will help local business and will attract people to them.

Chairman Goodwin noted no further comments or questions from the public or Commission. At 9:45 p.m. Plante MOVED, Hall seconded, to continue the Public Hearing until 11-19-12. MOTION PASSED UNANIMOUSLY.

Old Business:

a. **Live Music Permit Renewals**
Hall MOVED, Holt seconded, that the Commission approve the Live Music Permit renewals through November 1, 2013 for the following restaurants: Huskies Restaurant, file # 780-2; Pub 32, file # 595; and Ted's Restaurant, file # 1107. These renewals are conditioned upon compliance with the current mandated conditions for each, which shall be attached to this motion. MOTION PASSED UNANIMOUSLY.

b. **Application to Amend the Mansfield Zoning Map-Storrs Center Special Design District/Master Plan, Storrs Center Alliance, LLC, owner/applicant: PZC File #1246-10**
After discussion, most of which concerned the 24 hours of operation that was proposed for the store, Rawn volunteered to work with staff on a denial motion and Holt volunteered to work with staff on an approval motion for the next meeting.

c. **New Special Permit Application, 54 residential apartments, 73 Meadowbrook Lane, Whispering Glen-Lakeway Farms, L.P., owner/applicant: PZC File #1284-2**
Item tabled, pending continued Public Hearing.

d. **New Special Permit Application, Assembly/Banquet Hall and associated uses, 476 Storrs Road; Healey, owner/applicant: PZC File #1312**
Item tabled, pending continued Public Hearing.

e. **Special Permit Application, Seasonal Aerial Forest Ropes Course, west of Baxter Road on Storrs Road; Kueffner/Stoddard, owner/applicant: PZC File #1313**
Item tabled pending Public Hearing on 11/19/12.

f. **Draft Revisions to Zoning Regulations**
Item tabled pending Public Hearing on 11/19/12.

New Business:

a. **Status Determination: Shifrin, Mansfield Hollow Hydro Project, PZC File #1243**
Afterdiscussion, the consensus of the PZC was to concur with the Zoning Agent's opinion as stated in his memo of 11-1-12. Work at the mill did commence in conformance with the PZC's 5/5/10 modification approval, therefore no further PZC action is needed.

b. **New Subdivision Application, Beacon Hill Estates, Section II, Mansfield City Road, west of Beacon Hill Road; Eagleville Development Group, LLC, applicant: PZC File #1214-3**
Holt MOVED, Ryan seconded, to receive the subdivision application (file # 1214-3) submitted by Eagleville Development Group, LLC for a 17-lot subdivision, on property located on the south side of Mansfield City Road, west of Beacon Hill Drive as shown on plans dated 07/15/12, and as described in other application submissions, and to refer said application to the staff, Conservation Commission, and Open Space Preservation Committee for review and comments and to set a public hearing for January 7, 2012. MOTION PASSED UNANIMOUSLY.

c. **2013 Draft Meeting Schedule**
Holt MOVED, Hall seconded, that the Planning & Zoning Commission approve the 2013 meeting schedules for the Planning and Zoning Commission and Inland Wetlands Agency. MOTION PASSED UNANIMOUSLY.

d. **HUD Grant**
After Painter's summary, the Commission agreed by consensus to hold a Special Meeting on December 17th at 5:30 p.m. to meet with the HUD consultant and determine the Commission's role in this process.

Communications and Bills:
A field trip was scheduled to visit the Shifrin site on 11/14/12 at 3:30 p.m.
Regulatory Review Committee will meet on Thursday, November 8th at 5:00 p.m.
A 12-6-12 Special Presentation will be held at 7:00 p.m. in Council Chambers to discuss the Tech Park.

Adjournment: The meeting was adjourned at 10:12 p.m. by the Chairman.

Respectfully submitted,

Katherine Holt, Secretary

DRAFT MINUTES

MANSFIELD PLANNING AND ZONING COMMISSION
INLAND WETLANDS AGENCY
CONSERVATION COMMISSION
FIELD TRIP
Special Meeting
Wednesday, November 14, 2012

Members present:	K. Holt, A. Marcellino, K. Rawn
Others Present:	S. Lehman
Staff present:	L. Painter, Director of Planning and Development

The field trip began at 3:30 p.m.

1. Shifrin – Mansfield Hollow Road –Kirby Mill-Hydro Project-W1507
   Members were met on site by Sam and Michelle Shifrin. Members observed current conditions, and site characteristics. No decisions were made.

The field trip ended at approximately 4:50 p.m.

Respectfully submitted,

K. Holt, Secretary

PAGE
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To: Town Council/Planning & Zoning Commission
From: Curt Hirsch, Zoning Agent
Date: November 8, 2012

Re: ***Monthly Report of Zoning Enforcement Activity***
For the month of October, 2012

Activity	This month	Last month	Same month last year	This fiscal year to date	Last fiscal year to date
Zoning Permits issued	11	8	15	46	52
Certificates of Compliance issued	11	6	5	37	39
Site inspections	36	40	21	136	118
Complaints received from the Public	3	10	9	21	14
Complaints requiring inspection	1	7	7	14	11
Potential/Actual violations found	1	6	4	11	6
Enforcement letters	6	14	6	39	25
Notices to issue ZBA forms	2	1	0	5	4
Notices of Zoning Violations issued	0	12	0	16	7
Zoning Citations issued	2	0	0	7	6

Zoning permits issued this month for single family homes = 2, 2-fm = 0, multi-fm = 0
2012/2013 fiscal year total: s-fm = 2, 2-fm = 0, multi-fm = 0

PAGE
BREAK

TOWN OF MANSFIELD
DEPARTMENT OF PLANNING AND DEVELOPMENT

LINDA M. PAINTER, AICP, DIRECTOR

Memo to: Planning and Zoning Commission

From: Linda M. Painter, AICP, Director of Planning and Development

Date: November 15, 2012

Subject: **Aerial Ropes Course**
Storrs Road, between Baxter Road and Route 32
Special Permit Application (File 1313)

Project Overview

Applicant: Christopher Kueffner and Lynn Stoddard

Property Location: South side of Storrs Road, between Baxter Road and Route 32

Zoning RAR-90

Property Size: ±118 acres

Project Description: The applicants are requesting Special Permit Approval to develop a Seasonal Aerial Forest Ropes Course (recreational use) on ±10 acres of the subject property fronting on Storrs Road.

Background

The ±118 acre property is zoned RAR-90 and extends from Storrs Road to Forest Road. The proposed recreational use would occupy ±10 acres of land located adjacent to Route 195; the remainder of the property would remain in its natural forested condition. No changes to the farm or the remainder of the property are proposed. Surrounding land uses include Rockridge Condominiums to the north, a mixture of vacant and single-family properties to the east and west, and residential properties to the south, including one three-family dwelling and several single-family homes, all located on Forest Road. Recreational uses are allowed in the RAR-90 zone with special permit approval provided the site is located within 300 feet of an arterial or collector street; Storrs Road (Route 195) is designated as an arterial road by Article III, Section G.1.

As the proposed use is specifically designed to preserve and showcase the natural forest and will only occur on a seasonal basis, site improvements are limited. The applicants are proposing to develop a gravel parking lot in two phases. The first phase would consist of approximately 50 parking spaces, including 4 paved handicap accessible parking spaces. The remaining 35 spaces would be built only if needed to accommodate demand. Based on information from industry experts, the applicants anticipate approximately 100 visitors per day.

Other than the parking lot, the only permanent improvements will be the ropes course platforms and aerial

elements and a leveled pad for the seasonal ticket office and equipment storage, which will be housed in temporary sheds. The total area projected to be impacted for the parking area and ticket office/storage areas is ±1.25 acres. The proposed improvements will meet or exceed the minimum required setbacks for the RAR-90 zone.[1]

Special Permit Approval Criteria

Article V, Section B(5) of the Mansfield Zoning Regulations requires that the proposed project meet the following criteria in order to be approved:

- *The proposed project will not detrimentally affect the public's health, safety and welfare.*
  Subject to the suggested conditions noted under 'Summary and Recommendations,' the proposed project will not detrimentally affect the public's health, safety and welfare.

- *All approval criteria cited in Article V, Section A(5), Site Plan Approval Criteria, of the regulations have been met.*
  See detailed discussion below regarding compliance with Zoning Regulations.

- *The proposed use is compatible with the Town's Plan of Conservation and Development (POCD).*
  The proposed development is consistent with the Policy Goal #2, which states "To conserve and preserve Mansfield's natural, historic, agricultural and scenic resources with emphasis on protecting surface and groundwater quality, important greenways, agricultural and interior forest areas, undeveloped hilltops and ridges, scenic roadways and historic village areas." The subject property is located within an interior forest tract. The low intensity of the proposed use and focus on forest preservation help to implement the town's goal of preserving these areas.

- *The location and size of the proposed use and nature and intensity of use in relation to the size of the lot will be in harmony with the orderly development of the town and other existing uses.*
  The proposed outdoor recreation use is located on less than 10% of the overall property, allowing the remainder to be preserved in its natural state. Additionally, the use itself is designed to minimize impact on the forest and promote public education on the value of preserving natural areas while providing an opportunity for active recreation.

- *Proper consideration has been given to the aesthetic quality of the proposal, including the architectural design, landscaping and proper use of the site's natural features. The kind, size, location and height of structures, the nature and extent of site work, and the nature and intensity of the use shall not hinder or discourage use of the neighboring properties or diminish the value thereof. All applicable standards contained in Article X, Section R shall be incorporated into the plans.*
  Other than the components of the aerial ropes course, no permanent structures will be located on the site. The proposed temporary sheds are set back approximately 240 feet from Storrs Road, and will be screened from view of both the road and the parking lot by trees and topography. The applicants have designed the layout of the site to respect the natural landscape as much as possible.

Compliance with Zoning Regulations

The following analysis is organized by four main types of regulations: Design, Environmental, Site Access and Site Development/Performance Standards.

- **Design Regulations.** Article X, Section R contains Architectural and Design Standards that are required for all special permit requests. As the only permanent structures proposed as part of the application are the

[1] Item #12 on the statement of use indicates that the course will be within the required 35 foot setback. The applicants confirmed through a voicemail message that this statement was an error-they meant to state that all structures would be at least 35 feet from the side property lines.

components of the aerial ropes course, the main standards that apply from this section relate to site design and landscaping.

- *Site Layout Standards.* According to the Statement of Use: "The park will be designed to connect people with nature and teach and model good forest stewardship. The park layout and design will be very low impact, informed by the natural landscape and topography, preserving native trees and vegetation and existing stone walls. The tree-to-tree aerial bridges, or elements, will be raised and placed without heavy machinery and then secured without drilling into the trees. There will be interpretive signs to teach visitors about forest ecology and there will be no permanent buildings." Based on the above description as well as the plans provided, the proposed development meets the site layout standards contained in Article X, Section R.

- *Building Layout and Design Standards.* As no permanent structures are proposed, the criteria in this section do not apply.

- *Landscaping/Lighting/Site Improvement Standards.* As noted below under Site Access and Parking, the design of the site focuses on the preservation of mature trees, not clearing and installation of new trees. The parking area will be separated from Storrs Road by over 60 feet of mature landscaping. No lighting is proposed.

- *Signs and Accessory Structures.* Pursuant to Section X.R.3.j, signs and accessory structures such as sheds, fences, bicycle racks, benches, etc. should be designed to coordinate with primary buildings in form, materials and details. Since there are no primary buildings, in this case these elements should be designed to coordinate with the overall nature theme of the use, and the aerial structures. The proposed sign design illustrates this coordination. Additional details will be required to ensure that the final sign meets all of the requirements of Article X, Section C, including maximum height. As the proposed sign is located within the Storrs Road/Route 195 right-of-way, CTDOT approval will be required.

- **Environmental (Water, Wastewater, Flood Control, Etc.).**

  - *Stormwater.* The applicants have taken a Low Impact Development approach to the overall design of the site and the stormwater management system. The proposed parking lot will be permeable gravel with the exception of the handicap accessible spaces. The use of gravel will provide for water infiltration during regular rain events. Additionally, several stormwater management bioswales have been proposed at the perimeter of the parking lot to capture runoff and provide some storage volume for peak flows during larger storm events. These swales will also help to improve water quality. Water will discharge from these swales to the adjacent wetland systems via earthen weir.

    The Assistant Town Engineer has recommended submission of a management plan for the bioswales as a condition of approval.

  - *Water.* As no permanent buildings are proposed, no water supply is proposed. Bottled drinks will be available for visitors to the property. While the southwest corner of the property is within the designated Aquifer Protection Area for UConn's Willimantic wellfield, no development is proposed within that area.

  - *Wastewater.* The applicants are proposing to use portable toilets to meet the needs of employees and customers when the course is operating. No permanent restroom facilities are proposed. Currently, the site plan shows both pedestrian and vehicular access to the portable toilets from the phase 2 portion of the parking lot. Given the proposed phasing described below, pedestrian and vehicular access to this area needs to be provided from the phase 1 portion of the parking lot.

Additionally, since there is no permanent water supply source, EHHD has recommended that the applicants provide either self-contained hand washing sinks or hand sanitizer.

- **Site Access (Vehicular, Pedestrian, Parking, Loading, etc.)**
  The proposed redevelopment plan will improve vehicular access and reduce conflicts by limiting access to two clearly defined driveways, one on Storrs Road and one on Middle Turnpike. Additionally, the current plan includes pedestrian and bicycle accommodations.

  - *Vehicular Access.* Based on the recommendations contained in the Intersection Sight Distance Analysis prepared by Fuss and O'Neill, the applicants are proposing to locate the driveway along the eastern portion of the Storrs Road frontage. Approval of the driveway location from the Office of the State Traffic Authority (OSTA) will be required.

  - *Parking.* The applicants are proposing to develop an 85-space gravel parking lot in two phases to support the project. The purpose of developing the parking in phases is to ensure that adequate parking is provided without being excessive, thereby further reducing any environmental impact. The first phase would include approximately 50 spaces, including 4 handicap accessible spaces. The second phase would only be developed if needed, and would include 35 spaces. Pursuant to Article X, Section D.5, the Commission is responsible for establishing parking requirements for any use that is not identified, such as the proposed outdoor recreation use.

    With regard to the location and design of the parking lot, the Assistant Town Engineer has recommended that the eastern and western edges of the parking lot be provide 25-50 feet of separation between the parking lot and the wetland. Additionally, there appear to be several existing large trees that could be preserved through slight adjustments to the parking lot, such as a planting island between parking spaces.. As an arborist will be identifying trees for use in the aerial course, it is recommended that the arborist also examine the trees along the perimeter of the parking lot and identify those that should be preserved. This approach will provide a more natural look and feel to the parking lot.

    Pursuant to Article X, Section D.18.b, at least one shade tree at least 2 inches in caliper is required to be planted for each ten parking spaces. In this case, the applicants are proposing to meet landscape requirements through preservation of existing trees rather than planting of new trees. To accommodate for this approach, some variation to the requirement for a tree every 10 spaces may be needed. For example, the location of trees may result in some areas where there are fewer spaces than 10 spaces between trees and others where there are more than 10 spaces between trees. One area where tree preservation should be specifically reviewed is the span of 23 spaces along the south side of the parking lot in the first phase. Lastly, to continue the LID approach, the landscape islands where trees are preserved should include some protection for the trees such as railroad ties; however, these ties should not be continuous to allow for runoff to flow into the landscape areas.

  - *Pedestrian/Bicycle/Transit Access.* The applicants are proposing to install bicycle racks as a way of encouraging bicycle transportation to the site. They are also interested in working with the Town to develop safe bicycle access along Storrs Road and connect to other bikeways in town. No specific pedestrian facilities are proposed due to the site's location and the lack of pedestrian infrastructure in the area. Additionally, this area of town currently does not have any transit service.

- **Site Development/Performance Standards**

  - *Landscaping/Buffering.* Article VI, Section 4.B.q.2 requires the provision of a minimum 50 foot wide landscape buffer adjacent to a more restrictive zone or residential uses. To comply with this

requirement, the eastern end of the proposed parking lot needs to be shifted unless the Commission authorizes a waiver to reduce the buffer in this area to 35 feet.

Summary and Recommendations

Based on the above analysis, I find no significant land use issues with the proposed development. Provided the applicants are able to address the issues identified in this report to the Commission's satisfaction and any wetlands issues are addressed to the satisfaction of the Inland Wetlands Agency, the hearing should not need to be continued. The following conditions/issues should be addressed in any approval motion:

- Submission of a revised site plan for approval by the Director of Planning and Development that addresses the following:
  - Relocation of the eastern and western ends of the parking lot to be at least 25 to 50 feet from the wetland boundary and 50 feet from the side property lines
  - Provision of truck and pedestrian access to the portable toilets from the Phase 1 portion of the parking lot
  - Confirmation that the proposed parking lot design meets fire lane access requirements, particularly in the circle area of Phase 2; or changes necessary to meet the fire lane access requirements
  - Addition of notes and sign details related to how the applicant will enforce the prohibition on parking within fire access lanes
  - Addition of a pedestrian connection linking the handicap accessible parking spaces to the main pathway leading to the ticket area.
  - Addition of a note requiring installation of Phase 2 parking when needed to meet parking demand as determined by the Zoning Agent. If the second phase of parking is not built within 5 years, the applicants should seek an extension to the Inland Wetlands license.
- Submission of a management plan for the proposed stormwater swales.
- Approval of the proposed sign location by the CTDOT and subsequent submission of detailed sign location and structure for approval by the Director of Planning and Development
- Submission of detailed plans prior to issuance of a Zoning Permit identifying:
  - Platform, aerial element and path locations
  - Revisions to parking lot layout to reflect additional preservation of trees identified by arborists
- Recommendation that the applicants meet with the Advisory Committee on Needs of Persons with Disabilities to discuss how this project could include various accommodations to better serve persons with disabilities.

NOTES

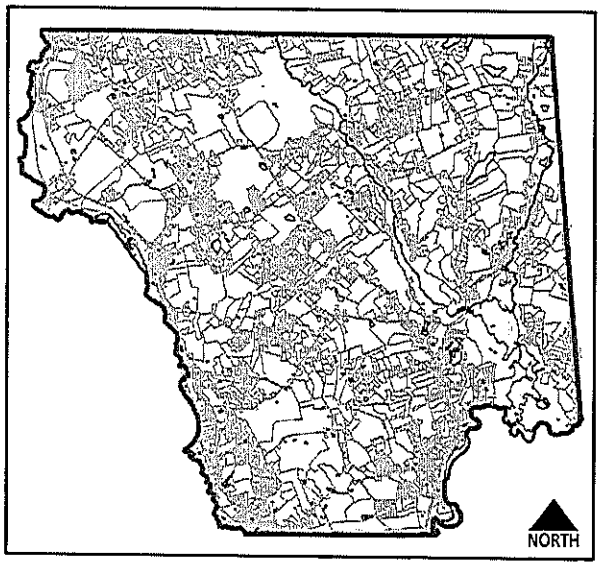
- The analysis and recommendations contained in this report are based on the following information submitted by the applicants:
  - Application submitted September 27, 2012 and received by the PZC on October 1, 2012, including:
    - Statement of Use dated September 2012
    - 9- page plan set prepared by Fuss & O'Neill dated September 25, 2012
    - Stormwater Management Report prepared by Fuss & O'Neill dated September 2012
    - Conservation Practices Map prepared by Natural Resources Service, Inc.
    - Intersection Sight Distance Analysis prepared by Fuss & O'Neill and dated September 13, 2012
    - Platform details prepared by Solo Construction Company dated May 29, 2010 and February 16, 2009
    - Typical plan for 5-course Aerial Forest Ropes Course
    - Identity Sign Concept

- Wetlands Delineation Report prepared by Fuss & O'Neill dated January 3, 2012
- Property survey prepared by Hayden L. Griswold dated July 9, 1966
- A-2 Survey prepared by Griswold & Fuss dated March 4, 1974

- The following correspondence regarding the proposed development has been received:
  - Memo from Geoffrey Havens, EHHD, dated 10/29/2012
  - Letter from Frederick Goetz, Advisory Committee on the Needs of Persons with Disabilities, dated 11/5/2012
  - Memo from Grant Meitzler, Assistant Town Engineer, dated November 13, 2012
  - Memo from Francis Raiola, Deputy Fire Chief, dated November 14, 2012
- Neighborhood Notification Forms were required to be sent to property owners within 500 feet of the subject property in accordance with Article V, Section B(3)(c) of the Mansfield Zoning Regulations. A copy of the notice has been provided. Certified mail receipts have been submitted.
- The Public Hearing on this item will be opened on November 19, 2012 and must be closed by December 24, 2012 unless a written extension is granted by the applicants.
- Before rendering a decision, the Planning and Zoning Commission must consider other referral reports and public hearing testimony. A decision must be made within 65 days of the close of the Public Hearing unless the applicants grant a written extension.

AERIAL FOREST
ROPES COURSE

PZC File 1313



SUBJECT PROPERTY

WATER

WETLANDS

1,200 600 0 1,200 Feet

PAGE
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Memorandum: November 13, 2012
To: Planning & Zoning Commission
From: Grant Meitzler, Assistant Town Engineer
Re: Kueffner/Stoddard - Aerial Forest Ropes Course - Route 195

plan reference: dated 9.25.2012
storm water management report: dated September 2012
Statement of Use: September 2012
Fuss & O'Neill letter re: Traffic, Sight Distance, September 2011

This application is for a strongly tree oriented project providing aerial rope courses through different levels of the tree canopy. The operation has been placed on an approximately 10 acre portion of a much larger parcel owned by the applicants. The site wetlands have been mapped by a soil scientist and are shown on the plans.

The proposed driveway entrance to this site is placed at a location of minimum wetlands impact. The September 2011 letter from Fuss & O'Neill supports the proposed "east driveway" location citing acceptable sight distances for the driveway. This drive is subject to Dept. of Transportation regulation. The drive is to be gated to control off-hour access.

The plans indicate a tracking pad at the proposed drive entrance.
Silt fencing is indicated along the sides of the drive entrance and downhill of the parking lot areas throughout. Earth slopes 3:1 or greater are indicated to be protected with mats to minimize sediment movement.
In the longer term the drainage swale areas will require maintenance to remain functional. An outline for the long term maintenance requirements is appropriate.

Parking & Circulation:

The portion of the driveway within the Rte 195 right of way is to be paved while the remainder on site is to be a gravel surface intended to take advantage of the subsurface drainage conditions below the proposed parking area.

I recommend adjustment to the parking lot placement to provide for between 50 and 25 feet separation from the mapped edges of wetlands. From my discussions with the applicants, I believe this separation can be achieved. I have particular concern for areas nearest wetlands at both the east and west ends of the parking areas where existing slopes and construction of the drainage swales will result in construction equipment having to move into these wetland areas.
Maintaining a 25' minimum naturally vegetated area has been a recommendation we have used in the past.

Discussion with the applicant indicates they are expecting 100 to 150 people for a high use day. Based on 3 people per car this suggests a need for 33 to 50 customer spaces. The plan shows 85 spaces in two phases. The current parking plan is a revision of an earlier draft showing a single rectangular area in the same location. The current plan represents effort to use trees as a feature within the parking lot.

Drainage:

Drainage calculations submitted by the applicant have used an assumed runoff from the gravel parking lot areas of 98 percent. This is very conservative and treats the runoff from the parking lot surface as if it were paved. These calculations show flows that are extremely low and certainly support the project.

Runoff from the parking surfaces has been directed to "drainage swales". These are shown in a detail on sheet CD-502. At the edge of each drainage swale location there is a 2 foot wide 4 inch deep layer of stone, a grassed slope leading into the swale and a central stone filled area 2 feet wide and 2 feet deep. Both these stone zones are to be wrapped in geotextile fabric to maintain viability. These swales are placed at specific points based on the breakdown of internal drainage areas, and are sized to contain the "first flush" flow representing one inch of rainfall.

General:

This is very much a tree oriented project. The applicant has placed a Phasing line showing 280 feet of parking in Phase 1, and 200 feet of parking in Phase 2. The applicant's wish is that Phase 2 only be constructed on an as needed basis for the obvious reason of avoiding an area of stumps at the project's front door. The need for Phase 2 parking should be apparent within the 5 year wetlands permit limit but should more time be needed, a renewal of the approval for Phase 2 parking should be sought from the wetlands agency.

I suggest flexibility be allowed within the final parking lot design to allow saving a notable tree that may fall within planned parking spaces to be saved by relocating one or two spaces within the parking layout.

A review of the location of proposed portable toilets is recommended that will shift access suitable for access by platform trucks servicing the toilets (in addition to pedestrians).

Recommended Conditions:

1. modification to the parking lot placement at its east and west ends to provide 50 to 25 feet of clearance between wetlands and the construction area required adjacent to the parking lot edge

2. An outline for long term maintenance requirements of the drainage swale structures is appropriate.

3. In the event that Phase 2 parking is not constructed before the five year permit expiration date, a renewal of the approval for the Phase 2 parking should be sought from the wetlands agency.

4. A review of the location of proposed portable toilets is recommended that will shift access into Phase 1 areas, and b suitable width for access by platform trucks servicing the toilets (in addition to pedestrians).

TOWN OF MANSFIELD
Mansfield Fire Department

JOHN JACKMAN, DEPUTY CHIEF / FIRE MARSHAL
FRAN RAIOLA, ASST. CHIEF / DEPUTY FIRE MARSHAL

AUDREY P. BECK BUILDING
4 SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
TELEPHONE (860) 429-3328
FACSIMILE (860) 429-3388

To: Mansfield Planning &Zoning Commission

From: Fran Raiola, Assistant Chief/Deputy Fire Marshal FR

Date: November 14, 2012

Re: Seasonal Aerial Ropes Course – Storrs Road PZC file #1313

After reviewing the plans for the above referenced project for compliance with the requirements of the Town of Mansfield Regulations for Fire Lanes, and Emergency Vehicle Access, I have the following comments.

1. Current regulations (§125-6) require a minimum inside turning radius of 25 feet to ensure adequate access for emergency vehicles. Please confirm that all fire lane access areas meet this requirement; specifically in the circle area of Phase 2.
2. Please indicate the plan for no parking enforcement within the fire lanes including the circle within Phase 2.

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Eastern Highlands Health District

Memo

To: Mansfield Planning & Zoning

From: Geoffrey Havens, RS, Sanitarian II

CC: Robert Miller, Director of Health

Date: 10/29/2012

Re: Comments on proposal for seasonal aerial forest ropes course on Rt. 195.

A review of the applicant's proposal for the referenced project was conducted for purposes of determining any aspects which might fall under the regulation of the Public Health Code or the Sanitary Code of the health district.

Food Service:

In conversation with the applicant it was made clear that there would be no plans for provision of foods other than the offering of bottled beverages. This limited offering does not meet the definition of food service under the Public Health Code and so will not be a regulated activity.

Water supply:

The plan proposes no water supply. With no planned food service or other proposed water uses on the property, a water supply is not required.

Sewage disposal:

The plan proposes portable toilets for the use of visitors and staff, under contract for provision and maintenance with a commercial vendor, in accordance with industry standards. In the absence of a water supply, no subsurface sewage disposal system is proposed. Because of the lack of a water supply to support hand washing, self-contained hand washing sinks or a supply of hand sanitizer should be provided.

TOWN OF MANSFIELD

MANSFIELD ADVISORY COMMITTEE ON PERSONS WITH DISABILITIES

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
Tel: (860) 429-3315
Fax: (860) 429-7785
E-Mail: SocServ@mansfieldct.org

November 5, 2012

Christopher Kueffner and Lynn Stoddard
192 Ravine Road
Storrs, CT 06268

Dear Mr. Kueffner and Ms. Stoddard:

We are writing to express our interest in your proposed Seasonal Aerial Forest Ropes Course in Mansfield. We have reviewed your application for a Special Permit, and are excited about the possibility of a facility such as this coming to the Mansfield community.

The goal of the Advisory Committee on the Needs of Persons with Disabilities is to work to improve conditions for people with disabilities related to access and inclusion in all aspects of community life. In discussing your application, we felt that a facility such as this has significant potential for individuals with disabilities. Currently Horizons in South Windham and Camp Hemlocks in Hebron offer recreational opportunities specifically for individuals with disabilities, but we feel that having "an engaging, outdoor, friend and family-centered recreational activity that builds self-esteem and health" would provide added benefits to all residents.

We appreciate your willingness to consider this suggestion, and would be happy to meet with you if you would like to learn more about the types of accommodations that could be made to serve individuals with a variety of disabilities. Thank you, and we look forward to hearing from you.

Sincerely,

Frederick Goetz, Chair

cc. Linda Painter, Director of Planning & Development

TOWN OF MANSFIELD
DEPARTMENT OF PLANNING AND DEVELOPMENT

LINDA M. PAINTER, AICP, DIRECTOR

Memo to: Planning and Zoning Commission

From: Linda M. Painter, AICP, Director of Planning and Development

Date: November 15, 2012

Subject: **Proposed Revisions to Zoning Regulations**
Article IX, Section C – Expansions/Alterations to existing structures; Article X, Section C – Signs; and Article X, Section D – Parking and Access Regulations
PZC File #907-38

Overview

The following changes to the Zoning Regulations are proposed as part of this application. These amendments have been reviewed by the Commission's Regulatory Review Committee. The exact wording of the changes can be found in the attached document.

- *Article IX, Section C, Nonconforming Buildings, Structures or Site Improvements.* Amend Subsection 2, Expansions/Alterations, to eliminate the need for special exception approval from the Zoning Board of Appeals for additions that meet the following criteria:
  - Addition does not extend further into the required side or rear yards;
  - Addition is not closer to the front property line; and
  - Addition is no greater in height than the existing building or structure

  The amendment also adds references to applicable criteria for Historic Village Areas and Flood Hazard zones.
- *Article X, Section C, Signs.* The following amendments are proposed for specific sign types:
  - *Special Event Signs (Section C.4.h.2).* Eliminate requirement that offsite special event signs be directional in nature and change the maximum size of offsite special events signs from 5 square feet to 8 square feet
  - *Event/Program Registration Signs (New Section C.4.h).* Add a new section to allow for temporary signs advertising registration for specific programs/events such as hockey, little league, etc.
  - *Gasoline Pricing Signs (Section C.6.a).* Change size of gasoline pricing signs from a 'not to exceed three (3) feet by four (4) feet' to 'not to exceed twelve (12) square feet).'
- *Article X, Section D, Required Off-Street Parking and Loading.* The following amendments are proposed to off-street parking requirements:
  - *Residential Driveways (New Section D.3).* Add a new section requiring residential driveways for one and two-family homes to meet the requirements of Sections 7.9, 7.10c through 7.10j and 7.11 of the Mansfield Subdivision Regulations.

- *Required Number of Parking Spaces (Section D.5).* Add a provision that allows the Commission to reduce the number of required parking spaces based on parking demand/actual need.

At Monday's meeting, I will make a brief presentation outlining the proposed revisions and rationale for considering the proposed revisions. I also will address any questions from Commission members and the public. Once the Hearing is closed, only technical assistance from staff may be received by the Commission. Current state statutes authorize the PZC to modify the proposed revisions prior to adoption, but to minimize any potential procedural issues, an independent Hearing should be considered for any significant alterations.

In addition to the referral to the WINCOG Regional Planning Commission, the proposed revisions have been referred to the Town Clerks of neighboring Towns and they have been filed with the Mansfield Town Clerk. The proposed revisions also have been posted on the Town's web site and communicated to all individuals who have signed up for the Town's Registry which was established pursuant to state statutes. Referrals also have been sent to the Town Attorney, Town Council, Zoning Board of Appeals Conservation Commission, Historic District Commission, Assistant Town Engineer, Fire Marshal and Zoning Agent. All communications received prior to 4:30 p.m. on Monday, November 19th will be copied and distributed to PZC members.

As with any proposed regulation amendment, the PZC must weigh anticipated public and private benefits versus anticipated public and private costs. All zoning regulations should be designed to serve a community need while protecting the "public's health, safety, convenience and property values." The Commission has the legislative discretion to determine what is best for the community as a whole, and the Zoning Regulations can and should be modified to meet changing circumstances, Plan of Conservation and Development goals, objectives and recommendations or to address a recognized public need. Section 8-2 of the Connecticut General Statutes and Articles I and XIII of the Zoning Regulations provide information on the legislative framework within which PZC decisions must be made. Section 8-3a of the Connecticut General Statutes requires that the Commission making a finding regarding consistency with the Plan of Conservation and Development. Collective reasons for PZC legislative actions should be clearly documented, and Section 8-3.a of the State Statutes requires the Commission to make a public finding regarding the consistency of the proposed revisions with respect to the Municipal Plan of Conservation and Development.

Analysis

- The proposed revisions are administratively straightforward and suitably coordinated with related zoning provisions.
- The proposed amendments would:
  - Streamline the permitting process for additions to non-conforming structures that are consistent with existing setbacks and development patterns;
  - Provide reasonable accommodations for temporary signs to promote special events and programs while ensuring that such signs do not result in long-term visual clutter;
  - Provide greater flexibility in the design of gasoline pricing signs while maintaining the same maximum total sign area;

- Ensure that driveways for new construction on existing one and two family lots of record are subject to the same safety and design standards as construction on new lots approved through the subdivision process; and
- Provide the Commission with flexibility to reduce parking requirements and need for additional impervious surfaces in cases where it is clear that parking demand is significantly less than the number of parking spaces required by the regulations.

➢ The proposed revisions are not considered to be in conflict with Mansfield's Plan of Conservation and Development, the 2010 Windham Region Land Use Plan or the State's Conservation and Development Policies Plan. Pursuant to the State Statutes regarding zoning amendments, any approval must specify a finding regarding the amendment's compatibility with the Municipal Plan of Conservation and Development. The proposed amendments help to implement Policy Goal 1, Objective d, which states "To promote the public's health, safety and convenience, to protect and enhance property values, to protect Mansfield's natural and manmade resources and to promote other goals and objectives contained in this plan by strengthening land use regulations, particularly permitted use provisions, application requirements and approval standards."

Summary

The proposed Zoning Regulation amendments present a policy issue for the Commission's legislative discretion. Subject to any Public Hearing comments, my review indicates that the proposal is acceptably worded and can be adopted without conflict with other regulatory provisions.

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O'Brien and Johnson

Attorneys at Law

120 Bolivia Street, Willimantic, Connecticut 06226 Fax (860) 423-1533

Attorney Dennis O'Brien
dennis@OBrienJohnsonLaw.com
(860) 423-2860

Attorney Susan Johnson
susan@OBrienJohnsonLaw.com
(860) 423-2085

November 15, 2012

Planning and Zoning Commission
Town of Mansfield
Audrey P. Beck Building
Four South Eagleville Road
Mansfield, CT 06268-2599

Re: **Draft Revisions to Zoning Regulations**
November 19, 2012 Public Hearing

Ladies and Gentlemen:

As requested by Director of Planning and Development Linda M. Painter, I have completed my review of the October 3, 2012 proposed changes regarding Additions to Non-Conforming Structures, Parking/Access Regulations including Driveway Standards, and Event and Pricing Signs, all to be considered by the PZC at a public hearing to be held on November 19, 2012.

As you know, the only question for me as town counsel is whether the proposed revisions are legal. For the most part, it is my responsibility to say whether the proposed revisions are within the purview of the Commission's authority under our constitutions and laws, especially Connecticut General Statutes section 8-2, the statute which expressly authorizes the PZC to adopt regulations controlling the zoning of land to the extent set forth in that particular law.

My review of the zoning law of the State of Connecticut has revealed no legislative provision or case directly on point that provides or holds that any condition or requirement like those proposed in these revisions is beyond the scope of the legislative mandate, or unconstitutional.

My opinion is that the proposed revisions present policy issues to be determined by the PZC. The Commission does have the legal authority and discretion to enact and to implement the subject proposed revisions to the Town of Mansfield's Zoning Regulations. Pursuant to Connecticut General Statutes section 8-3(a), any approved revisions must include a finding regarding compatibility of the changes with the Mansfield Plan of Conservation and Development.

Please let me know if you need any more from me on this.

Very truly yours,

Dennis O'Brien
Town Attorney

cc: Linda M. Painter, Director of Planning and Development

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TOWN OF MANSFIELD

Mansfield Fire Department

JOHN JACKMAN, DEPUTY CHIEF / FIRE MARSHAL
FRAN RAIOLA, ASST. CHIEF / DEPUTY FIRE MARSHAL

AUDREY P. BECK BUILDING
4 SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
TELEPHONE (860) 429-3328
FACSIMILE (860) 429-3388

To: Mansfield Planning &Zoning Commission

From: Fran Raiola, Assistant Chief/Deputy Fire Marshal

Date: November 14, 2012

Re: Proposed Revisions to Zoning Regulations PZC file #907-38

After reviewing the documents for the proposed revisions to the zoning regulations, I have the following comments.

1. The proposed revisions do not appear to impact negatively on the access for emergency vehicles. In addition, the revisions will improve access for one and two family residential structures and therefore I am in support of the proposed revisions.

PAGE
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HEALEY & ASSOCIATES, LLC
Land planning, Consulting & Surveying P.O. Box 557 Mansfield Center, CT 06250-0557 860-456-4500

Town of Mansfield
Planning and Zoning Commission
4 South Eagleville Road
Mansfield CT 06268-6863

November 14, 2012

Re: Special Permit application for The Common Fields 476 Storrs Road Mansfield CT

Dear Commission:

Due to the comments raised and information presented by the public at the last hearing dated November 5, 2012, I am requesting that the November 19th hearing be tabled to December 3, 2012. The extended time is necessary for a response to the new concerns raised by the public. In the event that the December 3, hearing is cancelled due to inclement weather, I would consent to an additional extension of the hearing.

Thank you for your consideration.

Respectfully Submitted,

Michael C. Healey

Michael C. Healey, PLS
Owner and Applicant

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TOWN OF MANSFIELD
DEPARTMENT OF PLANNING AND DEVELOPMENT

LINDA M. PAINTER, AICP, DIRECTOR

Memo to: Planning and Zoning Commission

From: Linda M. Painter, AICP, Director of Planning and Development

Date: November 15, 2012

Subject: **8-24 Referral: Marshall Property/Dunhamtown Forest**

Pursuant to the provisions of Section 8-24 of the State Statues, the above-referenced proposed acquisition of land has been referred to the PZC for comment. The Town Council has scheduled a 11/26/2012 Public Hearing on this issue, and if possible, comments should be forwarded prior to the Public Hearing. The PZC has 35 days to report to the Town Council. A copy of the Council Agenda Item and location maps are attached for your reference.

The following information is provided for the PZC's consideration.

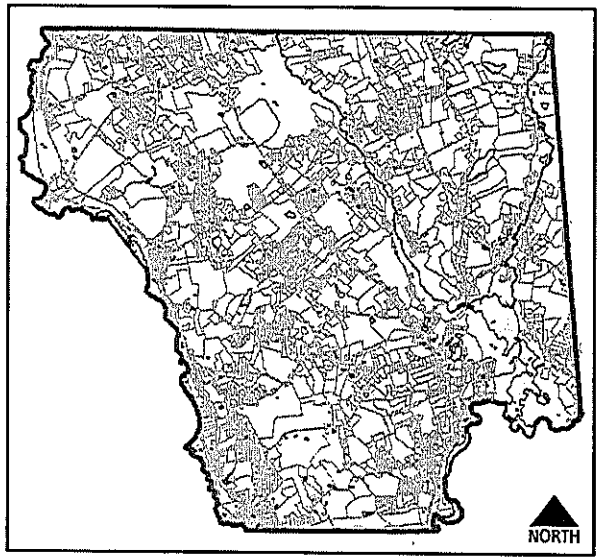
- The property being considered by the Town is a land-locked undeveloped parcel consisting of ±17 acres situated in an RAR-90 zone. As shown on the attached map, the property is surrounded on three sides by preserved open space.
- The subject property is part of the Dunhamtown Forest, a large interior forest tract consisting of ±250-500 acres.
- The property is identified as Interior Forest Tract and Wetland on Map 21 - *Existing and Potential Conservation Areas* in the Plan of Conservation and Development (POCD). A map error shows the property as preserved open space whereas it is actually privately owned.
- The property meets the following Open Space Acquisition Priority Criteria identified in Appendix K of the POCD used to assist in evaluating open space acquisitions:
    - The property is identified as a potential conservation area on Map 21 of the POCD
    - The property would expand an existing preserved open space area
    - The property is located within a large contiguous interior forest area
    - The property is visible from an existing trail
    - The property provides the opportunity to create 3 new trail connections
- The Open Space Preservation Committee has reviewed this request and recommended that the property be acquired based on its location in the Dunhamtown Forest tract and potential for extension of the existing trail network (see attached memo dated October 16, 2012).

<u>Summary/Recommendation</u>

Based on open space priority criteria and mapping contained in Mansfield's Plan of Conservation and Development, Town acquisition of the Marshall Property would promote goals set forth in Mansfield's Plan of Conservation and Development. It is recommended <u>**that the PZC notify the Town Council that the proposed acquisition of the Marshall Property would promote Mansfield's Plan of Conservation and Development through protection of interior forest and potential for expanding the town's trail network.**</u>

MARSHALL PROPERTY
8-24 REFERRAL

NOVEMBER 15, 2012



SUBJECT PROPERTY
OPEN SPACE
TRAILS
WATER
WETLANDS

1,500 750 0 1,500 Feet

Town of Mansfield
Agenda Item Summary

To: Town Council
From: Matt Hart, Town Manager
CC: Open Space Preservation Committee; Maria Capriola, Assistant to the Town Manager; Linda Painter, Director of Planning and Development; Curt Vincente, Director of Parks and Recreation; Jennifer Kaufman, Natural Resources and Sustainability Coordinator
Date: November 13, 2012
Re: Proposed Open Space Acquisition – Marshall Property

Subject Matter/Background
The Marshall property is a 17-acre property surrounded on three sides by the Town's Dunhamtown Forest and is depicted on the attached maps. The property was recently appraised at a value of $18,000. Since the Town funded the appraisal at a cost of $2,000, the owners are offering the property at a price of $16,000.

The land is mostly a wooded south-facing slope, featuring a wooded ravine and a maple swamp. A seasonal brook crosses the property and flows into a former cranberry bog (now marsh) at the west edge of the property. An existing Dunhamtown Forest trail along the top of the ravine offers scenic views of the ravine and the Willimantic River valley.

At its October 16, 2012 meeting, the Open Space Preservation Committee (OSPC) reviewed this property under the criteria in the Town's Plan of Conservation and Development. Committee members have also visited the property at various times. The OSPC recommends that the Town acquire this property to complete protection of the southern part of Dunhamtown Forest and to make the western part of forest accessible for trails.

The property almost bisects the southern part of Dunhamtown Forest (a large interior forest tract (250-500 acres). This tract is already largely protected, and preservation of this property would fill in a gap in this protected area.

The Marshall parcel offers an opportunity to create three new trails, all of which must cross the Marshall property:

1) trail from Mansfield City Road to the cranberry bog/marsh;
2) trail from the White Oak Road parking lot to the marsh; and

3) trail providing access to the western part of Dunhamtown Forest from the point where the trails meet by the marsh.

These trails would make it possible to include the western part of the forest in a long loop walk through the larger parcel (see map).

Financial Impact

The cost of the property will be covered by the Town's existing Open Space Fund, which has a balance of $1,238,069 ($238,069 in cash).

Recommendation

For the reasons listed above, staff recommends that the Town Council refer the proposed acquisition of the 17-acre Marshall Property to the Planning and Zoning Commission for review pursuant to section 8-24 of the Connecticut General Statutes, and to schedule a public hearing for its November 26, 2012 meeting to solicit public comment regarding the proposed purchase.

If the Town Council supports this recommendation, the following resolution is in order:

Move, effective November 13, 2012, to refer the proposed acquisition of the 17-acre Marshall Property to the Planning and Zoning Commission for review pursuant to section 8-24 of the Connecticut General Statutes, and to schedule a public hearing for 7:30PM at the Town Council's regular meeting on November 26, 2012 to solicit public comment regarding the proposed land purchase.

Attachments

1) OSPC Report re Marshall Property
2) Marshall Property in relation to Dunhamtown Forest
3) Aerial Photo of Property and Contiguous Open Space

OPEN SPACE PRESERVATION COMMITTEE

Comments on proposed acquisition of the Marshall property

October 16, 2012

To: Mansfield Town Council (EXECUTIVE SESSION), Matt Hart

At the OSPC's October 16, 2012 meeting, the committee reviewed in executive session a 17-acre property, which Gladys Marshall is offering to the Town. The committee reviewed this parcel with reference to its location and also criteria in the Town's Plan of Conservation and Development. Committee members have visited the property at various times.

DESCRIPTION

The property is surrounded on three sides by the Town's Dunhamtown Forest (see map). The land is mostly a wooded south-facing slope. It also includes a wooded ravine and a maple swamp. A seasonal brook crosses the property and flows into a former cranberry bog (now marsh) at the west edge of the property. An existing Forest trail along the top of the ravine offers scenic views of the ravine and the Willimantic River valley.

POCD CRITERIA

Interior Forest Tract

The property almost bisects the southern part of Dunhamtown Forest (a large interior forest tract (250-500 acres). This tract already has significant protection, and preservation of this property would fill in a gap in this protected area.

Enhances Connections

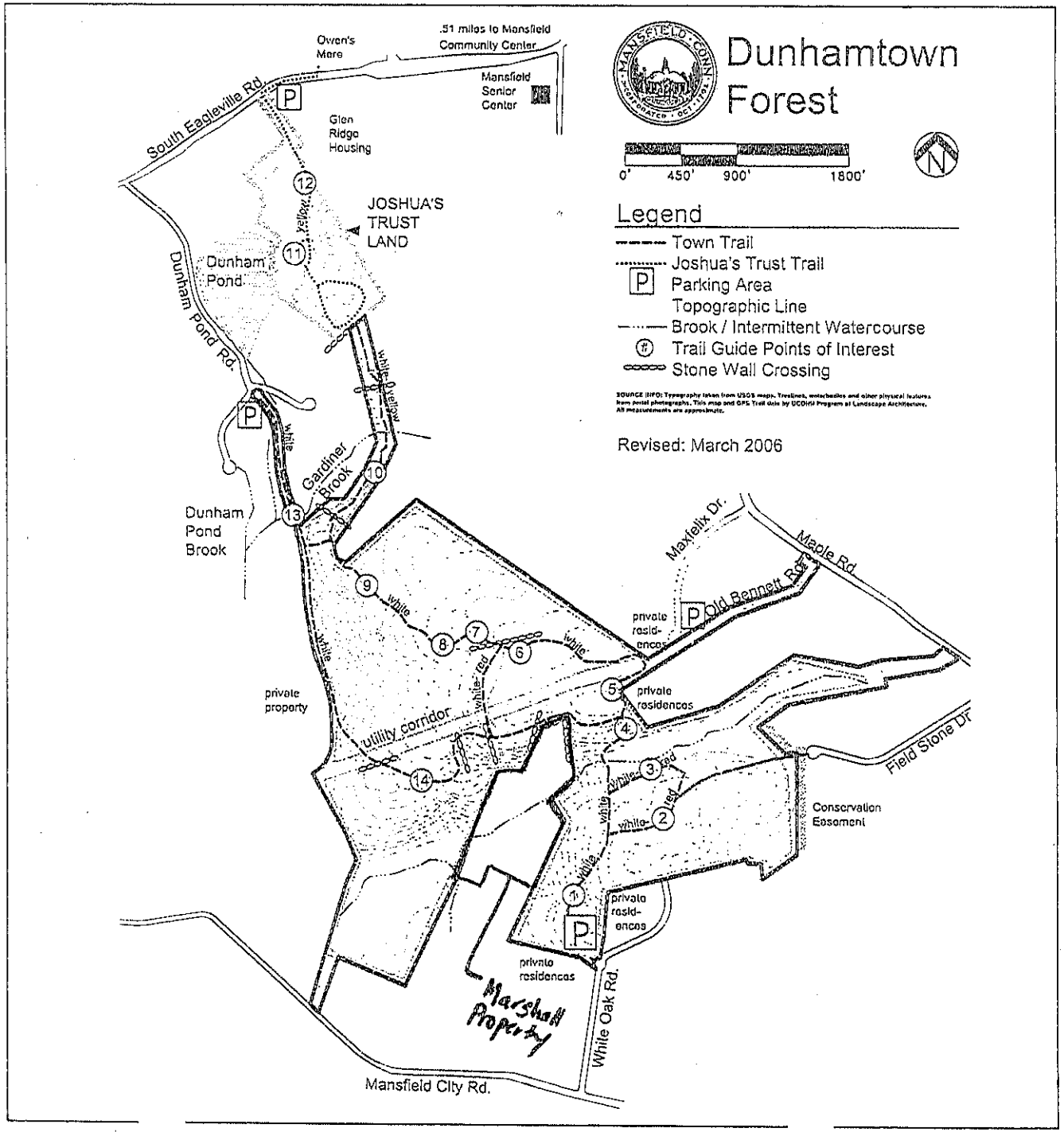
The Marshall parcel offers an opportunity to create three new trails, all of which must cross the property: 1) A trail from Mansfield City Road to the cranberry bog/marsh, 2) a trail from the White Oak Road parking lot to the marsh and 3) a trail providing access to the western part of the Forest from point where the trails meet by the marsh. These trails would make it possible to include the western part of the Forest in long loop walk through the Forest (see map).

RECOMMENDATION

The committee recommends that the Town acquire this property to complete protection of the southern part of Dunhamtown Forest and make the western part of Forest accessible for trails.

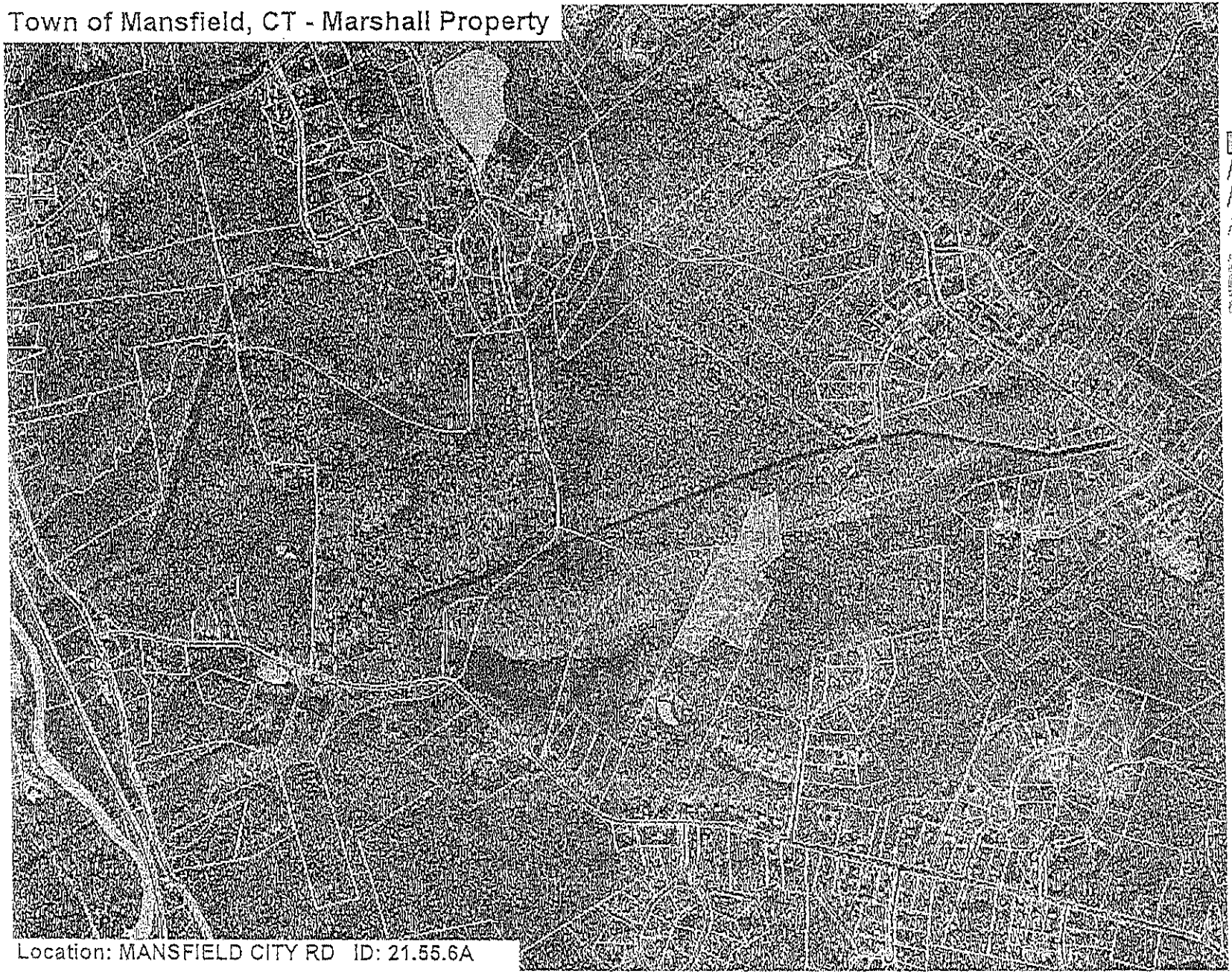
There are 3.9 miles of trails within the Town and abutting Joshua's Trust properties. The Town trails are blazed in white, Joshua Trust trails in yellow. They wind through the following points of interest:

1. **Old Logging Road** - This trail begins on an old logging road used for a timber harvest in the 1990's.



2. **Hardwood Forest** - Different types of woodlands occur depending on the soil type and moisture content. Here is a good example of a well-drained hardwood forest containing oaks, beeches and maples.
3. **Rock Outcrop** - A melting glacier deposited this large rock formation.
4. **Steep Slope** - This slope, along with much of the state's topography, was carved by the advance of the glaciers over 18,000 years ago.
5. **Old Property Boundaries** - While many of the old stonewalls signify the edges of crop fields or pastures, they were also used to mark the edges of ownership. Here the stonewall follows the edges of the park, indicating this was an original property boundary.
6. **Old Stone Wall** - Generally these stonewalls were used to mark property boundaries, or to contain livestock. Now this area is a mature forest. Stop to listen for bird songs of the thrushes and warblers, which survive best in deep woods and are abundant here in spring and summer.
7. **Forest Management** - In this area many felled trees remain on the forest floor due to forest management practices. To improve forest preservation and rejuvenation, the trees were cut down to provide more light for the remaining trees. By leaving the fallen trees in place, the forest biomass is retained while increasing the organic matter and habitat value of the forest floor.
8. **Old Stone Foundation** - A former home site lies a short distance towards the east. This cellar hole is rather small when considering present day building foundations.
9. **Old Cemetery** - This square enclosure is the site of the former Dunhamtown Cemetery. (The graves were moved to the Pink Ravine Cemetery). This area was known as "Dunhamtown" because the Dunham family had a farm here from 1695 to 1873. When it was abandoned, the forest returned, including the nearby large, 80-to-120-year-old oak trees.
10. **Native Hemlocks** - A moist area can be recognized by the evergreen hemlock trees. While these trees are native, they are currently being threatened by a non-native insect, the Hemlock Woolly Adelgid.
11. **View of Dunham Pond** - While resting here at the stone bench, look over Dunham Pond and view birds and other wildlife in the woods and on the pond.
12. **Wetland Boardwalk** - Note the lush vegetation in the wet soil: Native skunk cabbage, jack-in-the-pulpit, wild violets and other water-tolerant plant species.
13. **Stone Dam** - Gardiner Brook tumbles over an old mill dam. This old town road was known as Donovan Road because the Donovan family owned the farm from 1885 into the 20th century.
14. **Overlook** - The trail climbs to an overlook with views of the Willimantic River Valley in fall and winte

Town of Mansfield, CT - Marshall Property



Zoning
ConservationEasement
Railroad
Trails
Parcels
Streams
water
wetlands

1 in = 1291.09 ft

Printed:
9/11/2012

MainStreetGIS

Location: MANSFIELD CITY RD ID: 21.55.6A

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TOWN OF MANSFIELD
DEPARTMENT OF PLANNING AND DEVELOPMENT

LINDA M. PAINTER, AICP, DIRECTOR

Memo to: Planning and Zoning Commission

From: Linda M. Painter, AICP, Director of Planning and Development

Date: November 15, 2012

Subject: **8-24 Referral: Malek Property/Wolf Rock Preserve Area**

Pursuant to the provisions of Section 8-24 of the State Statues, the above-referenced proposed acquisition of land has been referred to the PZC for comment. The Town Council has scheduled a 11/26/2012 Public Hearing on this issue, and if possible, comments should be forwarded prior to the Public Hearing. The PZC has 35 days to report to the Town Council. A copy of the Council Agenda Item and location maps are attached for your reference.

The following information is provided for the PZC's consideration.

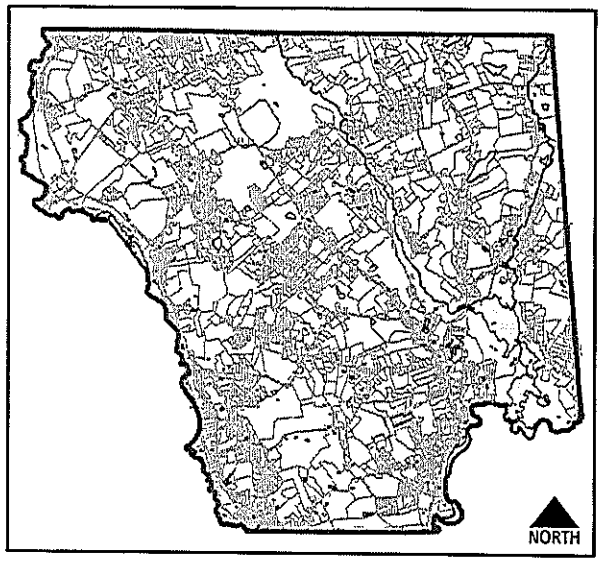
- The property being considered by the Town is a land-locked undeveloped parcel consisting of ±26.25 acres situated in an RAR-90 zone. As shown on the attached map, the property is surrounded on three sides by preserved open space.
- The subject property is part of an interior forest tract that includes the Joshua's Trust Wolf Rock Preserve and is located in the Kidder-Sawmill Brook streambelt. Preservation of this property would complete protection for approximately 3,000 feet of the brook.
- The property is identified as Interior Forest Tract and Wetland on Map 21 - *Existing and Potential Conservation Areas* in the Plan of Conservation and Development (POCD).
- The property meets the following Open Space Acquisition Priority Criteria identified in Appendix K of the POCD used to assist in evaluating open space acquisitions:
    - The property is identified as a potential conservation area on Map 21 of the POCD
    - The property would expand an existing preserved open space area
    - The property is located within a large contiguous interior forest area
    - The property includes a significant conservation and wildlife resource in the form of the Kidder-Sawmill Brook streambelt
    - The property provides the opportunity to expand existing trails on Wolf Rock Preserve
- The Open Space Preservation Committee has reviewed this request and recommended that the property be acquired based on its location in a large interior forest tract and potential for expanding trail connections (see attached memo dated April 24, 2012).

<u>Summary/Recommendation</u>

Based on open space priority criteria and mapping contained in Mansfield's Plan of Conservation and Development, Town acquisition of the Malek Property would promote goals set forth in Mansfield's Plan of Conservation and Development. It is recommended <u>that the PZC notify the Town Council that the proposed acquisition of the Malek Property would promote Mansfield's Plan of Conservation and Development through protection of interior forest and the Kidder-Sawmill Brook streambelt as well as the potential for expanding the town's trail network.</u>

MALEK PROPERTY
8-24 REFERRAL

NOVEMBER 15, 2012



SUBJECT PROPERTY
OPEN SPACE
STREAMS
WATER
WETLANDS

1,400 700 0 1,400 Feet

Town of Mansfield
Agenda Item Summary

To: Town Council
From: Matt Hart, Town Manager MWH
CC: Open Space Preservation Committee; Maria Capriola, Assistant to the Town Manager; Linda Painter, Director of Planning and Development; Curt Vincente, Director of Parks and Recreation; Jennifer Kaufman, Natural Resources and Sustainability Coordinator
Date: November 13, 2012
Re: Proposed Open Space Acquisition - Malek Property

Subject Matter/Background
The Malek Property is a 26.25-acre property offered for sale to the Town by the Malek family. They have owned the land for many years, which they used for hunting and firewood harvests until about ten years ago. The property is south of Joshua Trust's Wolf Rock Preserve on Crane Hill Road and is depicted on the attached maps. The property was appraised in October 2012 for $25,000 and is being offered to the Town for the appraised value.

The Open Space Preservation Committee reviewed this parcel under the criteria in the Town's Plan of Conservation and Development. Committee members have also visited the property at various times. The committee recommends that this property be preserved and suggests that the Town work cooperatively with the Joshua's Trust to secure permanent protection and management of this parcel.

The land slopes down to Sawmill Brook, which forms the west boundary. The northern portion consists of a mature hardwood forest. CL&P holds an easement on part of the land for its transmission lines, and a cleared area under the lines crosses the property near the south side. The proposed second transmission line would involve clearing part of the forested area. The parcel is surrounded by open space on three sides - Town land on the south and the west and Joshua's Trust land on the north.

Significant Conservation or Wildlife Resource
The property is in the Kidder –Sawmill Brook streambelt. The west side of the property abuts Sawmill Brook for about 900 feet, and preservation of this property would complete protection of approximately 3,000 feet of the brook. Young trees and shrubs on the edge of CL&P's cleared area provide habitat for birds that nest in these early-succession forest areas.

Interior Forest Tract
The property is in the middle of a large interior forest tract (250-500 acres). Most of this tract is protected, and the Town's acquisition of this property would further protect the tract.

Enhances Connections
The property is surrounded by Joshua Trust's Wolf Rock Preserve and Town open space totaling approximately 183 acres. Preservation of this property would fill in a gap in this protected area (see map). The property also would offer the opportunity to expand existing trails on Wolf Rock Preserve and possibly offer an alternative to the nearby Nipmuck Trail.

Financial Impact
The cost of the property will be covered by the Town's existing Open Space Fund, which has a balance of $1,238,069 (includes $1,000,000 in approved bond funding).

Recommendation
For the reasons listed above, staff recommends that the Town Council refer the proposed acquisition of the 26.25-acre Malek Property to the Planning and Zoning Commission for review pursuant to section 8-24 of the Connecticut General Statutes, and to schedule a public hearing for its November 26, 2012 meeting to solicit public comment regarding the proposed purchase.

If the Town Council supports this recommendation, the following resolution is in order:

Move, effective November 13, 2012, to refer the proposed acquisition of the 26.25-acre Malek Property to the Planning and Zoning Commission for review pursuant to section 8-24 of the Connecticut General Statutes, and to schedule a public hearing for 7:30PM at the Town Council's regular meeting on November 26, 2012 to solicit public comment regarding the proposed land purchase.

Attachments
1) OSPC Report re Malek Property
2) Map of Malek Property in relation to Saw Mill Brook Preserve and Wolf Rock Preserve.
3) Aerial Photo of Property and Contiguous Open Space

OPEN SPACE PRESERVATION COMMITTEE

Comments on proposed acquisition of the Malek property

April 24, 2012

To: Mansfield Town Council (EXECUTIVE SESSION), Matt Hart

At the OSPC's April 24, 2012 meeting, the committee reviewed in executive session a 26.25-acre property offered for sale to the Town by the Malek family. They have owned the land for many years, which they used for hunting and firewood harvests until about ten years ago. The property is south of Joshua Trust's Wolf Rock Preserve on Crane Hill Road.

COMMENTS

The committee reviewed this parcel with reference to its location and also criteria in the Town's Plan of Conservation and Development. Committee members visited the property at various times.

The land slopes down to Sawmill Brook, which forms the west boundary. The north portion is a mature hardwood forest. CL&P holds an easement on part of the land for its transmission lines, and a cleared area under the lines crosses the property near the south side. The proposed second transmission line would involve clearing part of the forested area. The parcel is surrounded by open space on three sides: Town land on the south and west sides: Joshua's Trust land on the north side.

POCD CRITERIA:

Significant Conservation or Wildlife Resource

The property is in the Kidder –Sawmill Brook streambelt. The west side of the property abuts Sawmill Brook for about 900 feet, and preservation of this property would complete protection of approximately 3000 feet of the brook. Young trees and shrubs on the edge of CL&P's cleared area provide habitat for birds that nest in early-succession forest areas.

Interior Forest Tract

The property is in the middle of a large interior forest tract (250-500 acres). This tract already has significant protection, and this property would contribute to that protection.

Enhances Connections

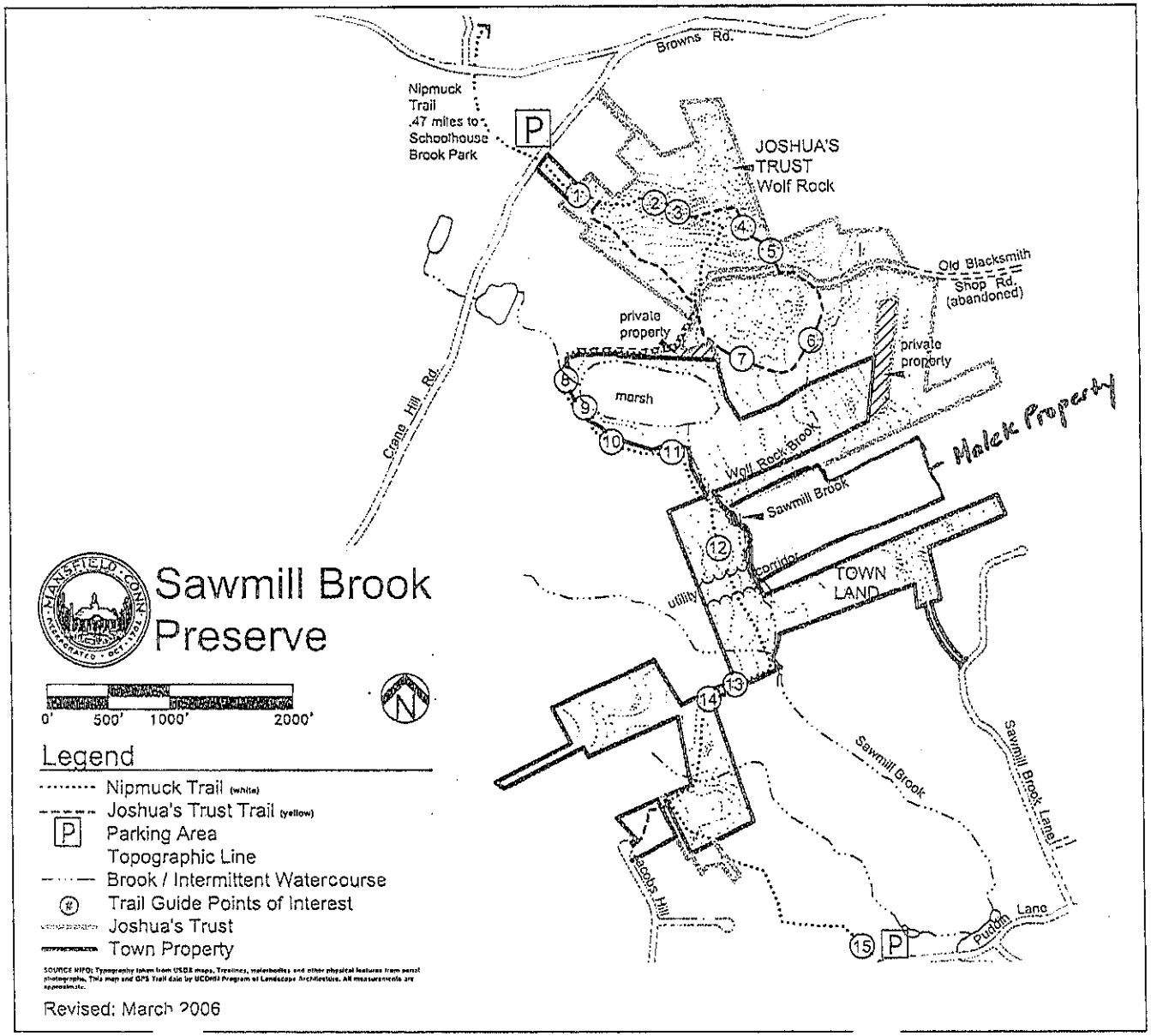
The property is surrounded by Joshua Trust's Wolf Rock Preserve and Town open space totaling approximately 183 acres. Preservation of this property would fill in a gap in this protected area (see map). The property also would offer the opportunity to expand existing trails on Wolf Rock Preserve and possibly offer an alternative to the Nipmuck Trail, which is across the brook.

RECOMMENDATION

The committee recommends that this property be preserved either by the Town and/or by Joshua's Trust. The Town could work cooperatively with the Trust to address permanent protection and management.

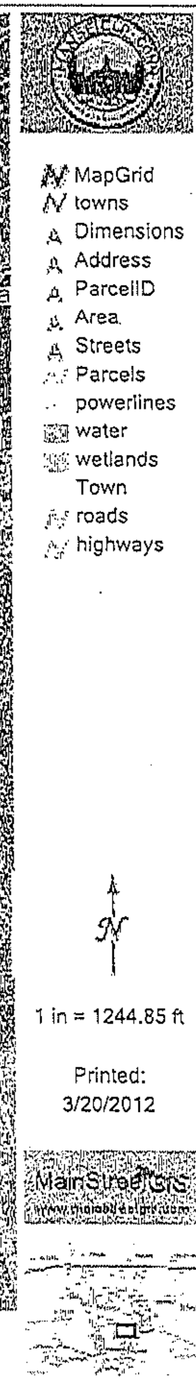
There is a total of 3 miles of blazed hiking trails within the Joshua's Trust and Town boundaries. The Nipmuck Trail (blazed in blue) and Joshua's Trust (blazed in yellow) wind through the following points of interest:

1. **Glacial Remains** - Signs of glacial activity are visibly scattered around the preserve. Many of the rocks were carried by the glacier from regions much farther north and were deposited here over 15,000 years ago.
2. **Wolf Rock** - Approximately 6 feet in diameter, this rock was left perched at the edge of a 40-foot cliff by the glaciers. Today it remains as one of Mansfield's most spectacular landmarks, mentioned in deeds dating back to the late 18th century.
3. **Scenic View** - As you look out south and east over the tree canopy from Wolf Rock, the views are breathtaking. Here the forested valley of Sawmill Brook can be seen, as well as the open fields on the brow of Crane Hill Field. In the distance is the campus of Eastern Connecticut State University.



4. **Rock Ledge** - During the descent down the trail, one of the preserve's many rock ledges can be seen. The bedrock exposed here is a variety of metamorphic rock called Willimantic Gneiss.
5. **Old Blacksmith Shop Road** - This abandoned road once connected Mansfield Center to the Crane Hill area.
6. **Riparian Vegetation** - While the trail winds along Wolf Rock Brook, take note of native water-tolerant vegetation growing here: skunk cabbage, ferns and birches. This palette of greenery will appear in many of the wet areas in the preserve.
7. **Hemlock Grove** - The dominant tree species here is the evergreen hemlock. While these trees are native, the species is currently threatened by a non-native insect called the Hemlock Woolly Adelgid.
8. **Invasive Plants** - As you cross over Sawmill Brook, notice the understory vegetation. These invasive species (barberry, multiflora rose, and bittersweet) were introduced as ornamental plants, and have since escaped from cultivated gardens into the wild, replacing native plants.
9. **Beaver Activity** - As the trail winds along the marsh's edge, note the pointed stumps. These are the remains of trees that were felled by beavers. The size of the marsh may be attributed to beaver damming.
10. **Marsh Views** - Sunny, treeless wetlands are called marshes. Phragmites, the tall 'wheat-like' grass seen at the far edge of the marsh, is a common invasive species of this wet environment.
11. **Wildlife View** - A view opens when the trail rounds the end of the marsh. Approach quietly and you may spot a Great Blue Heron.
12. **Utility Corridor** - This area is cleared for power lines and reveals the profile of Sawmill Brook valley, as the land slopes down to the brook, then steeply up the other side to Beech Mountain.
13. **Upland Hardwoods** - As the trail makes a gradual climb, notice the change in tree species. Hardwoods such as oak, beech and maple dominate the forest here.
14. **Old Stone Wall** - In most forests in New England it is common to find spans of old stonewalls used to contain grazing animals and property boundaries.
15. **Nipmuck Trail** - The blue-blazed Nipmuck Trail extends 37-miles from Union, Connecticut to Mansfield Hollow State Park and connects many of Mansfield's town parks. The Nipmuck trail is maintained by the Connecticut Forest and Parks Association.

Town of Mansfield, CT - Malek Aerial



MainStreetGIS, LLC - www.mainstreetgis.com / info@mainstreetgis.com

Disclaimer: This map is for assessment purposes only. It is not valid for use as a survey or for conveyance

PAGE
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RECEIPT OF APPLICATION FOR SPECIAL PERMIT, SITE PLAN, (RE)SUBDIVISION:

_____, move and _____ seconds to receive the SITE PLAN,

SPECIAL PERMIT, (re)SUBDIVISION application (file # 1314)

submitted by Rachel Jorgensen,

for an Efficiency Unit within a single-family dwelling

(if subdivision, give title) _____,

on property located at 22 Russett Lane,

owned by the applicant,

as shown on plans dated April 1964, revised through _____,

and as described in other application submissions, and to refer said application to the staff, ~~Design Review Panel, Committee on the Needs of Persons with Disabilities.~~

_____

_____

_____

(other)

for review and comments, and to set a Public Hearing (if applicable) for January 7, 2013

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SPECIAL PERMIT APPLICATION

(see Article V, Section B of the Zoning Regulations)

Mansfield Planning and Zoning Commission

File # 1314

Date November 5, 2012 *

1. **Name of development** (where applicable)_____

2. **Proposed use** of the property is Single family dwelling w.th efficiency apartment in accordance with Sec.(s) G.3 of Article VII (Permitted Use provisions) of the Zoning Regulations

3. **Address/location** of subject property 22 Russett Lane

   Assessor's Map 8 Block 13 Lot(s) 15 Vol. 708 Page 259

4. **Zone** of subject property RAR-90 **Acreage** of subject property 1.0

5. **Acreage of adjacent land in same ownership** (if any) NONE

6. **APPLICANT** Rachel Jorgensen Rachel Jorgensen
   (please **PRINT**) Signature
   Street Address 22 Russett lane Telephone _____
   Town Mansfield Zip Code _____

   Interest in property: Owner X Optionee _____ Lessee _____ Other _____

   (If "Other", please explain)_____

7. **OWNER OF RECORD:** Rachel Jorgensen Rachel Jorgensen
   (please **PRINT**) Signature
   (**OR** attached Purchase Contract _____ **OR** attached letter consenting to application _____)
   Street Address 22 Russett lane Telephone _____
   Town Mansfield Zip Code _____

8. **AGENTS** (if any) representing the applicant who may be directly contacted regarding this application:

   Name_____ Telephone _____
   Address_____ Zip Code _____
   Involvement (legal, engineering, surveying, etc.) _____

   Name_____ Telephone _____
   Address _____ Zip Code _____
   Involvement (legal, engineering, surveying, etc.) _____

(over)

9. The following items have been submitted as part of this application:

✓ Application fee in the amount of $ $360 ck# 827

✓ Statement of Use further describing the nature and intensity of the proposed use, the extent of proposed site improvements and other important aspects of the proposal. To assist the Commission with its review, applicants are encouraged to be as detailed as possible and to include information justifying the proposed special permit with respect to the approval criteria contained or referenced in Article V, Section B.5.

✓ Site plan (1 copies) as per Article V, Section B.3.d 8 1/2 x 11

____ Site plan checklist including any waiver requests

✓ Sanitation report as per Article V, Section B.3.e

✓ Acknowledgement that certified notice will be sent to neighboring property-owners, as per the provisions of Article V, Section B.3.c (use Neighborhood Notification Form).

N/A As applicable for projects within the watershed of the Willimantic Reservoir, acknowledgement that certified notice will be sent to the Windham Water Works, as per the provisions of Article III, Section 1.

N/A As applicable for projects within State designated aquifer protection areas, acknowledgment that the Commissioner of Public Health will be notified as per the provisions of Article III, Section 1. The State Department of Public Health's on line form (www.dph.state.ct.us/BRS/Water/Source_Protection/PA0653.htm) shall be used with a copy of the submittal delivered to the Planning Office.

✓ Other information (see Article V, Section B.3.g). Please list items submitted (if any): floorplan

10. **ALL APPLICATIONS, INCLUDING MAPS AND OTHER SUBMISSIONS, MUST COMPLY WITH ALL APPLICABLE SECTIONS OF THE ZONING REGULATIONS, INCLUDING, BUT NOT LIMITED TO:**

Art. X, Sec. E,	Flood Hazard Areas, Areas Subject to Flooding
Art. V, Sec. B,	Special Permit Requirements (includes procedure, application requirements, approval criteria, additional conditions and safeguards, conditions of approval, violations of approval, and revisions)
Art. VI, Sec. A,	Prohibited Uses
Art. VI, Sec. B,	Performance Standards
Art. VI, Sec. C,	Bonding
Art. VII,	Permitted Uses
Art. VIII,	Dimensional Requirements/Floor Area Requirements
Art. X, Sec. A,	Special Regulations for Designed Development Districts
Art. X, Sec. C,	Signs
Art. X, Sec. D,	Parking and Loading
Art. X, Sec. H,	Regulations regarding filling and removal of materials
Art. X, Sec. S,	Architectural and Design Standards

* Application was dated 10/5/12. It was received on 11/5/12

10/20/2012

To whom it may concern,

We, the owners of a single family dwelling at 22 Russet Lane in Mansfield, do make request for a special permit change in zoning classification at the same address to allow for the use of an existing portion of the house as an efficiency unit under Article V, section B. This request complies with the definition of an efficiency unit as follows:

1) The proposed space, which is a second floor of the home, contains a single bedroom, full bathroom and kitchen in a space of 660 square feet, 30% of the total square footage of the home, which is 2240 square feet. (see enclosed floor plan)
2) The efficiency unit will be owner-occupied and shall not be occupied by more than 2 persons. (Notarized affidavit of occupancy attached)
3) There is both interior access to the proposed efficiency unit via a staircase. There is also egress to the proposed efficiency unit via an exterior door and staircase.
4) There are presently, in the single-car attached garage and existing parking spaces on premises in paved driveway and parking spaces, at least 3 parking spaces with unobstructed access to the street.
5) The lot, parcel 4-2 in the so-called Russet Ridge development, is 40,294 square feet which is greater than the required minimum 40,000 square feet of acreage for an efficiency unit designation. (see enclosed plot plan and parcel description)
6) The portion of the single family dwelling unit at 22 Russet Lane being proposed for use as an efficiency unit was constructed in 1984. No modifications to the exterior are planned as part of this request. Therefore, the requirement that the proposed structure not alter the original character of the existing structure is satisfied.
7) Both the efficiency unit and the main dwelling unit are serviced by a waste processing system consisting of a 900 gallon septic tank and leach field. The tank was inspected and pumped when the property was purchased in June 2011 and found to be in good working order. The tank was also pumped in August 2012 and also found to be in good working order. There are two full baths and one half bath attached to the waste processing system. The number of bedrooms is not being increased as a result of this request for zoning reclassification. The home has had 4 bedrooms since the completion of remodeling in 1984.
8) 22 Russet Lane is not within a Flood Hazard Area.

Please accept this application with associated documentation as requested/required.

Sincerely,

Rachel Jorgensen
Beverly Jorgensen
Kevin Jorgensen

Owners, 22 Russet Lane

22 Russet Lane
Rachel, Beverly & Kevin Jorgensen; the map/block/lot number is: 008/0013/0015; and the deed reference is: Vol. 708, Pg. 259 Dated 6/16/2011.

Special Permit Application

Waiver Request
#2 Not applicable
No site work, improvements or modification being made to the property or structure

Not Included

#8 Existing & Proposed contours, quantity of material to be added or removed
No site work, improvements or modification being made to the property or structure

#9 Watercourse, wetland, flood hazard areas, aquifers
None present

#10 Exposed ledge, areas shallow to bedrock
None present

#11B Test pit & percolation test location & findings
No septic system or site modifications being made

#12A Existing & proposed drainage facility, roadways, bridges, pedestrian ways, utilities (including construction details
No site work, improvements or modification being made to the property or structure

#12B Existing & proposed easement, rights to drain
None existing or proposed

#12C Proposed sediment & erosion controls
None existing or proposed

#13A Existing & proposed off street parking & loading areas, fire access lanes
Non existing or proposed

#13B Outside storage & refuse areas, fuel & chemical storage tanks
None existing or proposed

#14 Existing & proposed fencing, walls, landscaping (including plant size & type, historic features)
No site work, improvements or modification being made to the property or structure

#15 Existing or proposed outdoor illumination (including method & intensity of lighting)
No site work, improvements or modification being made to the property or structure

#16 Existing & proposed outdoor recreation features, with construction details for any recreation improvements
None existing or proposed

To Whom It May Concern:

Please be advised that the co-owners of the real property at 22 Russet Lane, Mansfield, CT do intend to maintain residence at said property following the re-zoning of the property as a single family dwelling with an additional efficiency apartment.

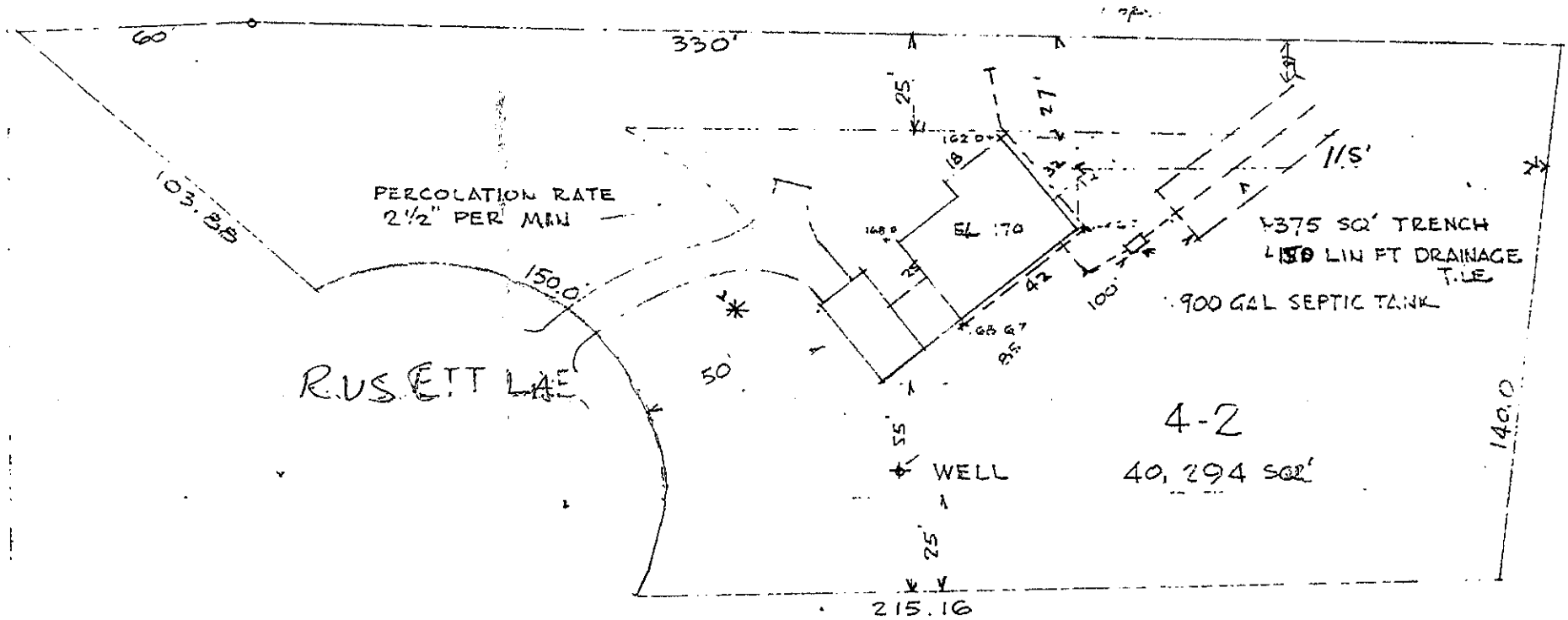
Beverly Jorgensen
(co-owner)

The Commonwealth of Massachusetts

On this 17th day of October, 2012,
before me, the undersigned notary public, personally appeared Beverly Jorgensen
proved to me through satisfactory evidence of identification, which were MA Driver's License
to be the person whose name is signed on the preceding or attached document and
acknowledged to me that he/she signed it voluntarily for its stated purpose.

Mary Richards

MARY RICHARDS, Notary Public
My Commission Expires November 21, 2014

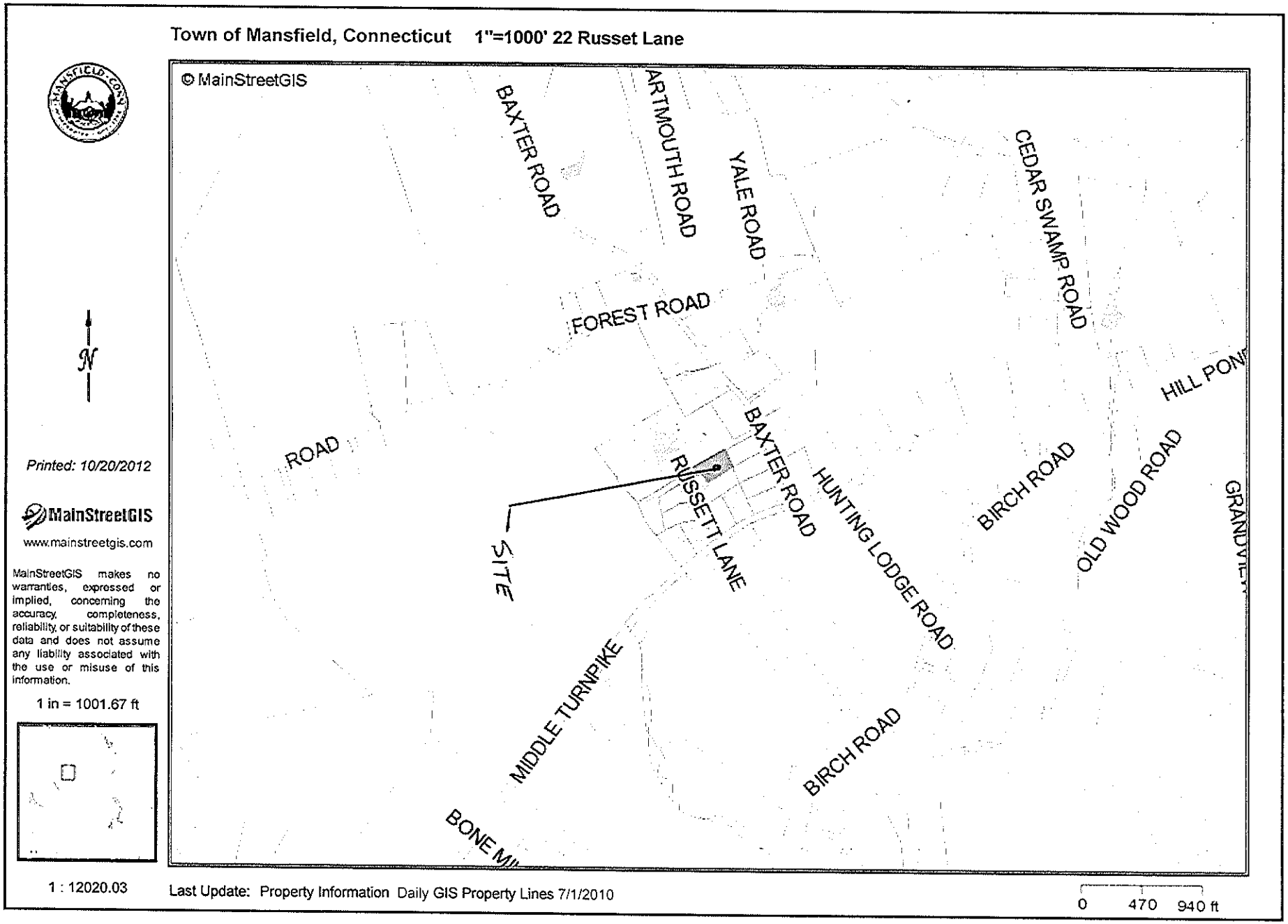


22 RUSSETT RIDGE
MANSFIELD. CONN.
LOT 4-2

SCALE 1" = 40'-0"

submitted: 10/5/2012

drawn: April 1969


Town of Mansfield, Connecticut 1"=1000' 22 Russet Lane
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BAXTER ROAD
ARTMOUTH ROAD
YALE ROAD
CEDAR SWAMP ROAD
FOREST ROAD
HILL POND
ROAD
BAXTER ROAD
RUSSETT LANE
HUNTING LODGE ROAD
BIRCH ROAD
OLD WOOD ROAD
SITE
MIDDLE TURNPIKE
BIRCH ROAD
Printed: 10/20/2012
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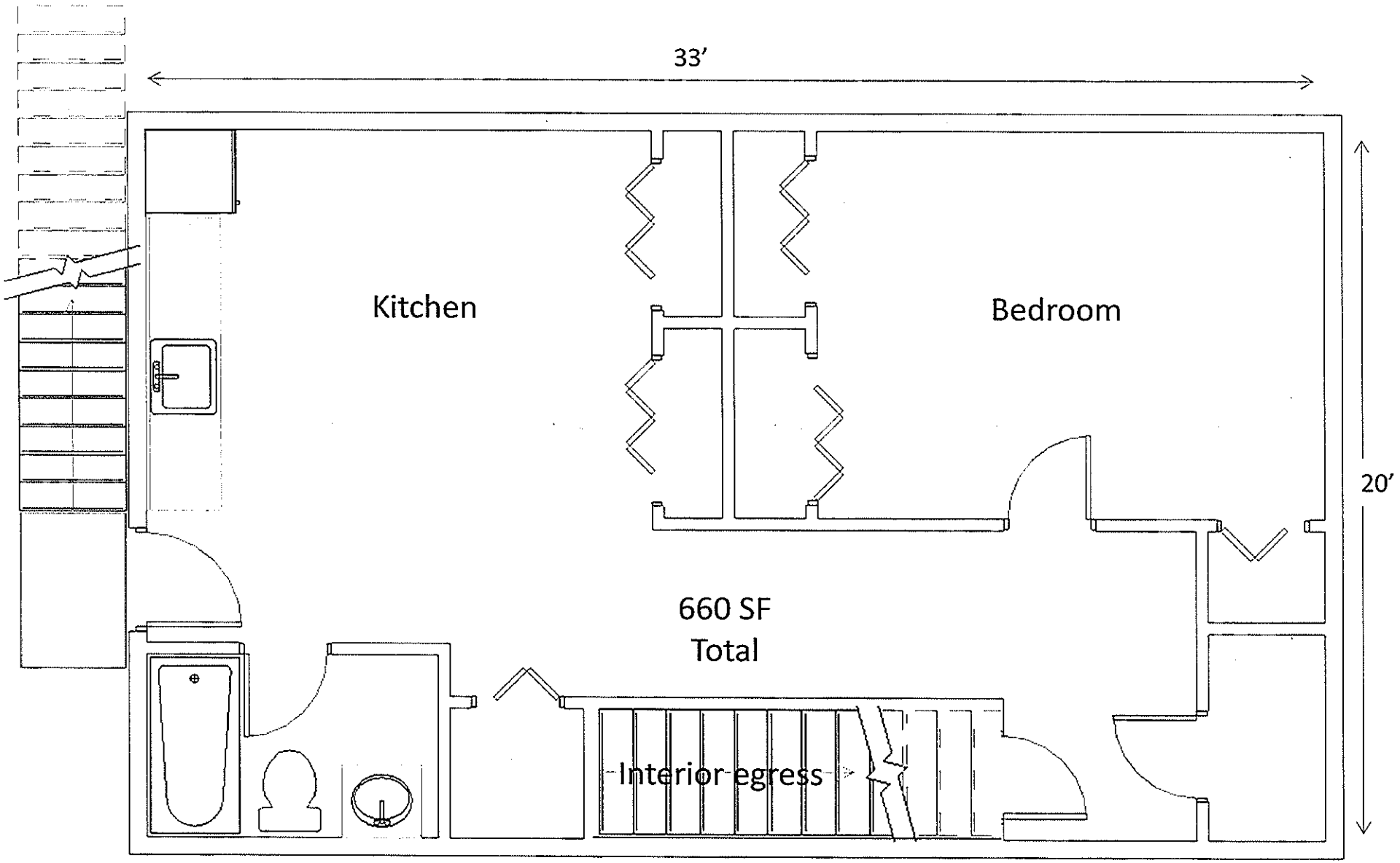
1 in = 1001.67 ft
1 : 12020.03
Last Update: Property Information Daily GIS Property Lines 7/1/2010
0 470 940 ft

22

F1



Floor Plan- Proposed Efficiency Unit
22 Russett Lane,

TOWN OF MANSFIELD
DEPARTMENT OF PLANNING AND DEVELOPMENT

LINDA M. PAINTER, AICP, DIRECTOR

Memo to: Planning and Zoning Commission

From: Linda M. Painter, AICP, Director of Planning and Development

Date: November 15, 2012

Subject: **Water Supply Environmental Impact Evaluation (EIE)**

Attached is a memo from Town Manager Matthew Hart regarding the draft Water Supply Environmental Impact Evaluation (EIE) which was published by the University of Connecticut on November 6, 2012. He is requesting that the Commission forward any comments on the draft EIE to his office by Tuesday, December 4, 2012. Comments received by that date will be forwarded to the Town Council for their consideration in preparation of the Town's official response to the draft document. To assist you in your review, copies of the Executive Summary, Introduction and Selection of Preferred Alternative are attached to the memo. The rest of the document can be reviewed on-line or at the Town Clerk's office.

If the Commission is interested commenting on the draft report, the comments must be adopted prior to the close of the December 3, 2012 meeting.

PAGE
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TOWN OF MANSFIELD
OFFICE OF THE TOWN MANAGER

Matthew W. Hart, Town Manager

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
(860) 429-3336
Fax: (860) 429-6863

To: Conservation Commission
Economic Development Commission
Four Corners Sewer and Water Advisory Committee
Planning and Zoning Commission
Sustainability Committee
Town/ University Relations Committee

Copy: Town Council

From: Matthew W. Hart, Town Manager

Re: Referral of UConn Water Supply Environmental Impact Evaluation (EIE)

On November 6, 2012, the University of Connecticut published the draft of the Water Supply Environmental Impact Evaluation for public review and comment. The EIE evaluates several different potential sources of water to serve both the University and Town, including:

- Interconnections with the following water systems:
  - Connecticut Water
  - Metropolitan District Commission
  - Windham Water Works
- Development of new groundwater wells in Mansfield (several sites were evaluated along the Willimantic River and in the Mansfield Hollow area)
- Relocation of UConn's existing Well A at the Fenton River Wellfield

Last week, Linda Painter, the Town's Director of Planning and Development, emailed each of your commissions/committees a link to the website where the report can be found (http://www.ct.gov/ceq/cwp/view.asp?a=987&Q=249438&ceqNav=|#EIE). Due to the length of the report, I thought it might be helpful to provide key sections for your initial review. As such, I have attached the following chapters to this memo:

- Executive Summary
- Introduction
- Selection of Preferred Alternative

Additionally, those interested in hearing a brief overview of the EIE findings may want to attend the Four Corners Sewer and Water Advisory Committee meeting scheduled for Thursday, November 15, 2012 at 7:00 in the Town Council Chambers. Jason Coite from the University of Connecticut will be presenting an overview of the draft EIE at that meeting.

Review Process

In accordance with the process required by the Connecticut Environmental Policy Act (CEPA), the University will hold a public hearing on December 11, 2012 at 7:00 p.m. in Room 146 of the Bishop Center. The doors will open at 6:00 p.m. for viewing of informational materials related to the EIE. Written comments can be submitted until December 21, 2012.

As this is a project of significant interest to the Town, we would like to submit one consolidated set of comments in response to the draft EIE. Our goal is to prepare a draft letter for consideration by the Town Council at their December 10, 2012 meeting. Accordingly, all comments should be provided to my office by Tuesday, December 4, 2012.

If you have any questions or comments regarding the process for providing comments to the Town Council, please contact Linda Painter, Director of Planning and Development at 860.429.3330 or painterlm@mansfieldct.org.

Questions regarding the substance of the EIE should be directed to Jason Coite at the University of Connecticut (Jason.coite@uconn.edu). Any question directed to Jason will be treated as part of the official comment process unless the email specifically states that the question or comment contained therein is **not** being sent as an official submittal under the CEPA process.

EXECUTIVE SUMMARY

INTRODUCTION

Water supply planning in Storrs and Mansfield has been underway for nearly two decades. The University of Connecticut (University) has prepared four individual water supply plans beginning in 1994. Additionally, the Town of Mansfield prepared a water supply plan in 2002. These water supply plans provided estimates of future water demand in different geographic areas, with the University's plans focusing on the main campus, Depot Campus, and immediately adjacent areas. The Town of Mansfield's plan included more distant areas that could benefit from water supply, such as the Mansfield Four Corners area and residential neighborhoods to the west of the main campus.

Two parallel efforts brought water supply issues to the forefront in 2010 and 2011: the University's development of its updated individual *Water Supply Plan* (submitted to state agencies in May 2011) and the Town of Mansfield's study of water supply options for redevelopment of the Mansfield Four Corners area. The University's 2011 *Water Supply Plan* identified four areas of future potable water service that were committed by the University: The Storrs Center development, the North Campus Technology Park, Depot Campus redevelopment, and the King Hill Road Planned Business Area. The 2011 *Water Supply Plan* further identified the need for an additional 0.5 mgd to 1.0 mgd of available supply to bolster available water during certain months of the year and boost margins of safety[1] (MOS) above 1.15 over the 50-year planning period. This amount of water was needed in the short/intermediate term to meet MOS requirements during periods of peak demand when Fenton projection is curtailed or ceased.

Meanwhile, the Town of Mansfield's study of water supply options for redevelopment of the Mansfield Four Corners area identified future areas of water need in the town that were not committed to by the University in its 2011 *Water Supply Plan*. Specific to the Mansfield Four Corners area, a total of 0.17 mgd of water demand has been estimated for this area through the 20-year planning period.

Given the mutual need for water to address potable water demands identified in the 2011 *Water Supply Plan* and the 2011 Mansfield Four Corners study report, the University and the Town of Mansfield began to collaborate to identify a source of water supply that would meet combined future needs. In June 2011, the University and the Town of Mansfield initiated the subject Environmental Impact Evaluation (EIE) under the Connecticut Environmental Policy Act (CEPA) to allow for a detailed evaluation of potential interconnection and groundwater supply alternatives. An additional water supply will have the dual benefit of increasing the University's MOS while also providing potable water for use on campus and in the town of Mansfield consistent with the town's *Plan of Conservation and Development* (POCD) and zoning regulations.

PROJECT PURPOSE AND NEED

In order to enable growth of the University and the surrounding area consistent with the University's master plans and associated environmental analysis and the Town of Mansfield's *Plan of Conservation*

[1] Margin of Safety is defined as the ratio of available supply over demand. A margin of safety of 1.15 implies that a water system has 15% more water available than demand. This 15% provides a buffer against unforeseen circumstances, such as water main breaks or other emergencies.

and Development, the University and the Town of Mansfield are in need of a viable long-term public water supply source. This additional supply would have the dual benefit of increasing the margin of safety of the University's water supply system while also providing potable water for use on campus, in the Mansfield Four Corners area, and elsewhere in town. The need for additional water supply is driven by existing and future water demands as follows:

1. Need for Sufficient Margin of Safety (MOS) – MOS is thoroughly evaluated in the University's *Water Supply Plan* (2011) and in the water demand projections of the *Water and Wastewater Master Plan* (2006). A minimum of 0.32 mgd of new water supply will be necessary to meet the maximum month MOS goal of 1.15 during periods of peak demand and when the Fenton River Wellfield is curtailed or offline. This includes existing system demands plus committed water supply both on and off campus. It also accounts for the reduction of demand that will occur once the reclaimed water facility comes on line. Off-campus committed demands include Storrs Center and King Hill Road Planned Business Area. Of the 0.32 mgd quantity, only 0.04 mgd would be needed for consumption; the remainder would be placed on standby for MOS. A minimum of 0.73 mgd of new water will be necessary to meet the peak day MOS goal of 1.15 in 2060. Of the 0.73 mgd quantity, only 0.38 mgd would be needed for consumption; the remainder would be placed on standby for MOS.

2. Additional Incremental Demand to Supply the Technology Park – The proposed Technology Park on the University's North Campus was allocated a committed water demand of 89,600 gpd in the 2011 *Water Supply Plan*. This figure was revised in May 2011 from prior estimates through a tabulation of potential gross square footage of buildings to be constructed in the Technology Park. At the present time, higher average water demands are being forecast for the Technology Park. Current estimates are approximately 423,500 gpd. With 89,600 gpd already set aside in the 2011 *Water Supply Plan* and analyzed as part of the water needed to maintain future margins of safety, the increment of 333,900 gpd is therefore an additional future water demand. Maximum month demands and peak day demands will be somewhat higher although the timing of peaking factors is likely to be different for each parcel in the Technology Park, depending on the use (i.e., classroom versus year-round research). The analysis on page 6-25 of the 2011 *Water Supply Plan* provides the rationale and justification to support a ratio of 1.33 for peak day planning calculations. This factor is applied to the average day demand of 333,900 gpd to estimate a peak day demand of 444,087 gpd. Applying the desired 15% MOS yields the following demand forecasts:

TABLE ES-1
Additional Incremental Technology Park Demand

Condition	Base Demand	Base Demand Plus 15% MOS
Average Day	333,900 gpd	383,985 gpd
Peak Day	444,087 gpd	510,700 gpd

3. Future Town of Mansfield Demand – In addition to the previously committed water service in the Town of Mansfield, the town has identified previously uncommitted demands associated with the Mansfield Four Corners development (170,000 gpd), a planned elderly and assisted living facility (30,000 gpd), and a number of residential development areas as identified in Tables 2-9, 2-10, and 2-11 of the *Water and Wastewater Master Plan* (totaling 253,500), for a total average day demand of 453,500 gpd. Provision of public water to these areas is consistent with Mansfield's *Plan of*

Conservation and Development. Similar to the Technology Park, factors are applied to obtain peak day demand as well as a 15% MOS as follows:

TABLE ES-2
Additional Demand Within the Town of Mansfield

Condition	Base Demand	Base Demand Plus 15% MOS
Average Day	453,500 gpd	521,525 gpd
Peak Day	603,155 gpd	693,628 gpd

In total, the following additional water supply is needed to meet peak day demands in the 50-year planning horizon (2060) with a 15% MOS:

TABLE ES-3
Incremental Water Supply Demand in 2060

Need	Average Day Demand With 15% MOS	Peak Day Demand With 15% MOS
Committed Water Supply Demand	*320,000 gpd	730,000 gpd
Additional Incremental Technology Park Demand	383,985 gpd	510,700 gpd
Additional Town of Mansfield Demand	521,525 gpd	693,628 gpd
TOTALS:	***1,225,510 gpd***	***1,934,328 gpd***

*Due to the manner in which the demand was computed in the University's 2011 *Water Supply Plan*, maximum month average day demand is used in this table as a proxy for average day demand.

The above numbers are consistent with the University's *Water Supply Plan* and the *Water and Wastewater Master Plan*, both of which have been vetted by the public, Town of Mansfield officials, and state regulatory agencies.

4. Additional Future University Demand – The water supply planning period extends to the year 2060. It is likely that additional on-campus demands will materialize in that timeframe for uses that are as-of-yet undefined. Potential demand generators include the following:

   - Increased student population, with associated housing needs.
   - Expanded student recreational and/or athletic facilities, potentially including practice facilities, indoor recreational facilities, recreational fields (i.e. flag football, recreational soccer, rugby, baseball, and softball), athletic fields (i.e. football, soccer), and ice sports.
   - Additional classroom space, student laboratory space, and faculty offices.
   - Additional research space.

The extent to which the above demands may materialize is unknown at this time, as any associated timing. As such, a specific value cannot be ascribed to the water demand such uses might require. However, some measure of growth is likely. As such, alternatives will be evaluated for their ability to expand to accommodate additional future potential on-campus growth.

ALTERNATIVES ANALYSIS

In accordance with CEPA requirements, numerous alternatives have been analyzed for providing water supply to the University and Town of Mansfield. Four different types of actions have been evaluated:

- The "no action" or "no-build" alternative;
- Relocation or replacement of Fenton River Wellfield Well A;
- Interconnection with neighboring wholesale water providers; and
- Construction of new public supply wellfield(s).

Specifically, the seven alternatives considered in this EIE are as follows:

Alternative #1 - No action or no-build;
Alternative #2 - Relocation or replacement of Fenton River Wellfield Well A;
Alternative #3 - Interconnection with The Connecticut Water Company's (CWC) Northern Operations Western System in Tolland;
Alternative #4 - Interconnection with The Metropolitan District Commission (MDC) system in East Hartford;
Alternative #5 - Interconnection with Windham Water Works (WWW) system in southern Mansfield;
Alternative #6 - Development of New Groundwater Supply Source along Willimantic River; and
Alternative #7 - Development of New Groundwater Supply Source Near Mansfield Hollow Lake.

Table ES-4 summarizes the capability of each alternative relative to the project purpose and need. Only Alternatives 3, 4, an 5 (the interconnections with water utilities) are capable of providing 1.23 million gallons per day average day demand (ADD), 1.93 mgd peak day demand (PDD), and have the ability to expand to accommodate additional future growth in water demand.

TABLE ES-4
Capability of Each Alternative to Deliver Potentially-Desired Quantities of Water

Alt. #	*Alternative Name*	*Able to Deliver ADD of 1.23 mgd?*	*Able to Deliver PDD of 1.93 mgd?*	*Able to Expand to Accommodate Additional Future Growth?*
#1	No action	No	No	No
#2	Replacement of Fenton Well A	No	No	No
#3	Interconnection with CWC	**Yes**	**Yes**	**Yes**
#4	Interconnection with MDC	**Yes**	**Yes**	**Yes**
#5	Interconnection with WWW	**Yes**	**Yes**	**Yes**
#6	Development of New Groundwater Supply along Willimantic River	No	No	No
#7	Development of New Groundwater Supply Near Mansfield Hollow Lake	No	No	No

CWC = Connecticut Water Company
MDC = Metropolitan District Commission
WWW = Windham Water Works

EXISTING ENVIRONMENT AND ANALYSIS OF IMPACT

Land Use – Table ES-5 summarizes state-designated land uses and current zoning by town for the interconnection pipeline routes. The State *Conservation and Development Policies Plan* for Connecticut discourages provision of public water supply in Existing Preserved Open Space, Preservation Areas, Conservation Areas, Rural Lands, Aquifer Protection Areas, and Historic Areas.

The intended developments for which a new source of supply is needed are all located within the Town of Mansfield in areas where such development is consistent State Plan designations as well as local zoning and the Town of Mansfield's *Plan of Conservation and Development*. The Town of Mansfield is undergoing a comprehensive and detailed revision of its regulations and has proposed overlay zones to restrict development in areas of public water supply such that local development is consistent with the State Plan. The proposed overlay zones will restrict development along potential pipeline routes for the purpose of controlling unwanted or unanticipated secondary growth.

Land uses in the Towns of Tolland, Coventry, and Bolton may also be affected by potential interconnection pipeline routes, Tolland for the MDC and CWC interconnection alternatives, and Coventry and Bolton primarily related to the MDC interconnection alternative.

Water Resources – Impacts to source waters will vary depending on the selected alternative:

- Provision of water from CWC would draw upon the Shenipsit Reservoir while the Powder Hollow, Hunt, Preston, and other Northern Region wells will offset some of the treated water from Shenipsit that is distributed to the west and north. While system improvements are proposed, no new sources would be developed under this alternative and withdrawal rates would largely not exceed historic withdrawals. Reservoir withdrawals would be mitigated, as they are today, through continued releases from the Shenipsit Reservoir to the Hockanum River, to be supplanted in the future with releases that are consistent with Connecticut's streamflow regulations.

- Provision of water from MDC would draw upon the Barkhamsted and Nepaug Reservoirs in the Farmington River basin. Withdrawals would not exceed existing registered rates, and source and treatment plant improvements are not proposed. MDC is not required to release water under Connecticut's streamflow regulations; however, MDC will continue to manage releases from the West Branch Farmington River reservoirs.

- Provision of water from WWW would draw upon the Willimantic Reservoir upstream of the Natchaug River. A new or modified diversion permit would be needed as well as removal of sediment from the reservoir to maintain adequate water quality. WWW operates its source of supply as a run-of-the-river withdrawal rather than relying on reservoir storage. Mitigation could take the form of increasing releases from Mansfield Hollow Lake by the U.S. Army Corps of Engineers, although this is beyond the control of the University, Town of Mansfield, or WWW.

No direct impacts are expected to occur to surface water or groundwater as a result the installation of water mains and pipelines. The integrity of bridges and culverts will not be compromised, as water mains will be primarily installed using directional drilling or attached to bridges.

TABLE ES-5
State Plan Designations, Zoning, and Summary of Recommended Mitigation per Town

Town Name	Interstate or Roadway	Alternatives Considered[1]	Adjacent Zoning Districts	State Plan Designations[2]								Existing PWS?	Mitigation
				RC	NC	GA	RCC	EPOS	PA	CA	RL		
Mansfield	Route 195 (northwest)	CWC, MDC	Neighborhood Business Zone 1							X		No	Overlay Zone
			Rural Agricultural Residence 90					X	X	X	X	No	Overlay Zone
			Professional Office 1							X	X	No	Overlay Zone
			Residence 90						X	X		No	Overlay Zone
			Planned Business 3			X						No	Overlay Zone
	Baxter Road/Route 44	CWC, MDC	Rural Agricultural Residence 90					X	X	X	X	No	Overlay Zone
			Planned Business 3			X						No	Overlay Zone
	Route 44	MDC	Neighborhood Business Zone 1							X		No	None
			Rural Agricultural Residence 90		X	X		X	X	X	X	Partial	Overlay Zone
			Institutional		X							Partial	None
	Chaffeeville Road	WWW	Rural Agricultural Residence 90					X	X	X		No	Overlay Zone
	Clover Mill/Maple Road	WWW	Rural Agricultural Residence 90					X	X	X	X	No	Overlay Zone
Coventry	Route 195	CWC, MDC	Neighborhood Commercial							X		No	None
			River/Aquifer Zone						X	X		No	None
	Route 44	MDC	Commercial				X		X	X	X	No	Possible Overlay Zone
			Professional Office							X	X	No	Possible Overlay Zone
			Commercial/Agricultural						X	X	X	No	Possible Overlay Zone
			General Residential Zone 80				X	X	X	X	X	No	Possible Overlay Zone
			General Residential Zone 40						X	X	X	No	Possible Overlay Zone
			River/Aquifer Zone						X	X		No	Possible Overlay Zone
Tolland	I-84	MDC	Commercial/Industrial			X		X				Yes	None
			Tolland Business Park			X		X				Yes	None
			Residential Design District					X	X	X	X	No	Possible Overlay Zone
			RDD-Nat. Resource & Wildlife					X	X	X	X	No	Possible Overlay Zone
			Tolland Village Area				X					Yes	None
			Gateway Design District				X					Yes	None
	Route 195	CWC, MDC	Gateway Design District				X					Yes	None
			Neighborhood Commercial				X					Yes	Possible Overlay Zone
			Residential Design District						X	X	X	No	Possible Overlay Zone
			RDD-Nat. Resource & Wildlife						X	X	X	No	Possible Overlay Zone
Bolton	I-384	MDC	Residential 1						X	X	X	No	Possible Reg. Amendment
			Residential 2							X		No	None
			Industrial							X		No	None
			General Business							X		No	None
	Route 44	MDC	Residential 1						X	X	X	No	None
			Residential 2								X	No	None
			Residential 3						X	X	X	No	None
			Industrial								X	No	None
			General Business						X	X	X	No	None
Vernon	I-84	MDC	Commercial		X	X			X	X		Partial	None
			Single-Family Residential R-27		X	X		X	X	X	X	Partial	None
			Planned Residential Development		X							Yes	None
			Special Economic Development		X	X						Partial	None
			Industrial			X			X	X		Yes	None
			Planned Development - Exit 67		X	X			X	X		Yes	None
Manchester	I-84	MDC	Rural Residence		X				X			Yes	None
			Residence B		X							Yes	None
			Industrial		X				X			Yes	None
			Planned Residential Development		X				X			Yes	None
			General Business		X				X			Yes	None
			Comprehensive Urban Develop.		X							Yes	None
			Business 5		X							Yes	None
			Residence A		X							Yes	None
			Special Design Commercial		X							Yes	None
	I-384	MDC	Industrial		X	X						Yes	None
			Rural Residence		X	X		X		X		Partial	None
			General Business		X							Yes	None
			Elderly Housing Development		X							Yes	None
			Business 1	X	X							Yes	None
			Business 2	X	X							Yes	None
			Residence AA	X	X			X				Yes	None
			Residence A		X							Yes	None
			Residence B	X	X							Yes	None
			Residence C	X	X							Yes	None
			Planned Residential Development	X	X							Yes	None
			Historic	X								Yes	None
South Windsor	I-84	MDC	Industrial		X							Yes	None

Notes

1. CWC = The Connecticut Water Company
   MDC = The Metropolitan District
   WWW = Windham Water Works

2. State Plan Designations:
   - RC Regional Center
   - NC Neighborhood Conservation
   - GA Growth Area
   - RCC Rural Community Center
   - EPOS Existing Preserved Open Space
   - PA Preservation Area
   - CA Conservation Area
   - RL Rural Lands

Socioeconomics – The provision of additional water supply to the University and Town of Mansfield is expected to have a positive impact on the local and regional socioeconomic horizon through creation of direct new employment on campus as well as indirect and induced job creation off campus. The Town of Mansfield and its neighboring communities are well positioned to absorb any incremental increase in population and housing demand resulting from new water supply, even with the land use controls that will be enacted to limit development along the pipeline route in Mansfield.

Community Facilities and Services – The provision of additional water supply to the University and Town of Mansfield is consistent with current community services. The burden on municipal and University emergency services personnel is not expected to increase significantly.

Aesthetic and Visual Resources – The provision of additional water supply to the University and Mansfield will enable additional development on-campus as well as in portions of northern Mansfield in areas proximate to the University's Main and Depot campuses and Agronomy Farm. On-campus development will be congruent with the architecture and building heights throughout the campus. Any off-campus development within the Town of Mansfield will be guided by local regulations relative to aesthetics and will require approval through Mansfield's Planning & Zoning Commission. Additionally, the aesthetics of pumping stations and storage tanks will need to be sited and designed such that they are congruent with the aesthetic character of the surrounding area.

Public Utilities and Services – The provision of additional water supply to the University and Town of Mansfield will increase the capacity of the University's water system. Benefits to small community, non-transient non-community, and transient non-community water systems will be realized through interconnections or direct connection to new pipelines. However, the furtherance of duplicative water service in the State (specifically in Manchester, South Windsor, Vernon, and Tolland for the MDC interconnection) is contrary to the State's statutory obligation for coordinated water supply planning.

Significant adverse impacts to storm sewer, electric, gas, telephone, and cable services are not anticipated.

Cultural Resources – Where pipeline is installed outside of previously disturbed public rights-of-way, sensitivity to historic or archeological resources is possible along pipeline routes in Mansfield, Tolland, Coventry, and Bolton. In such instances, site-specific investigations will be undertaken in consultation with state and local entities such that impacts to cultural resources are avoided or minimized to acceptable levels.

Traffic, Transportation and Parking – The provision of additional water supply to the University and Town of Mansfield will cause temporary impacts to traffic, as water mains will be installed in state and town roadways. No permanent impacts to traffic will occur. Individual development that occurs as a result of the availability of a source of public water supply will require site-specific review through local approval processes and, where applicable, through the Connecticut Office of State Traffic Administration (OSTA).

Flood Hazard Potential – Installation of pipelines will have minimal impacts where they cross special flood hazard areas (SFHAs), as piping and appurtenances will be below grade.

Biological Environment – The majority of pipeline installation will occur where roads are currently paved and therefore do not support significant biological communities. Best practices will be undertaken to minimize disturbances to adjacent biological resources. Protection of fishery resources and fish habitats

will be of paramount importance for all of the alternatives. For the WWW alternative, increased withdrawals from the Willimantic Reservoir may adversely affect riffle and run habitats downstream of the reservoir in the Natchaug River. Removal of sediment from the Willimantic Reservoir will likely impact some wetland vegetation, although the extent and length of such impact can only be evaluated following a specific proposal for excavation. Based upon similar projects undertaken at other Connecticut Reservoirs, sediment excavation can be achieved without unacceptable impacts to wetlands or fisheries.

Physical Environment – No significant changes will occur to the physical environment as a result of provision of water to the University and Mansfield. Significant modifications to area topography are not contemplated.

Air Quality – The provision of additional water supply to the University and Town of Mansfield will not significantly impact air quality in the Town of Mansfield or the region. Numerous controls are proposed for minimizing short-term construction related impacts to air quality from fugitive dust and other pollutant emissions.

Noise Quality – Minor temporary noise impacts are anticipated during construction of the water pipeline. The majority of construction activities will occur in the daylight hours to minimize noise impacts. New pumping stations for the CWC, MDC, and WWW alternatives will become localized sources of noise, although such noise will be minimal.

Solid Waste and Hazardous Materials – Other than temporary construction and demolition-related impacts, minimal impacts related to solid waste and hazardous materials are expected as a result of provision of water to the University and Mansfield.

Energy Resources – Increases in energy usage would occur for all of the feasible alternatives. For the CWC interconnection alternative, energy will be used to withdraw additional groundwater from wells in the Western System, filter and treat additional water at the Rockville WTP, and pump water through the pipeline. For the MDC interconnection alternative, energy will be used to filter and treat additional water at the West Hartford and Bloomfield WTPs and to pump water through a series of pumping stations along the pipeline. For the WWW alternative, energy will be used to filter and treat additional water at the WTP and pump water through the pipeline. Systems that are more proximal and at higher elevations (CWC and WWW) will use less energy than systems that are distant and at lower elevations (MDC). The periods of peak water demand at the University (late August and early September), and hence peak electrical demand for pumping and treating, does not typically coincide with peak Statewide electrical demand (typically July). Energy usage will also increase where additional water allows development; however, these are not anticipated to be regionally significant.

Cumulative Impacts – Cumulative impacts are those that result from the incremental impact of the proposed action when added to other past, present, or reasonably foreseeable future actions. Cumulative impacts associated with the feasible alternative include the following:

- Additional groundwater and/or surface water supply withdrawals;
- Interbasin transfer of water;
- Formation of additional disinfection byproducts in treated water due to higher water ages along the pipeline;
- Additional water mains within roadways;

- Incremental energy demands; and
- Additional development due to the presence of public water.

Cumulative impacts are most likely for the alternatives that cause further diminution of flows in nearby watercourses, such as the WWW interconnection. On the other hand, CWC and MDC have a greater ability to actively mitigate for diminution of flows below their reservoirs, and the cumulative impacts will be minimized.

Unavoidable Adverse Environmental Impacts – Certain adverse impacts associated with provision of water to the University and Mansfield are unavoidable. Delivery of water to the University and Mansfield from CWC, MDC, or WWW will constitute an interbasin transfer of water and resulting loss of water from local donor basins; this cannot be avoided. The CWC and MDC alternatives would involve transfers of water from the Connecticut River major basin whereas the WWW alternative would involve the transfer of water within the Thames River major basin. CWC and MDC are capable of managing releases to downstream watercourses. WWW does not have such capabilities because it operates a run-of-the-river dam.

The project will undergo a construction phase wherein additional equipment will be utilized. Mitigation measures have been identified with respect to associated short-term air and noise quality. However, a certain degree of additional truck and equipment use and access will be necessary during this time period, which is unavoidable. Potential soil erosion and sedimentation impacts will be largely mitigated through proper construction management techniques.

Unavoidable adverse environmental impacts are possible along some of the pipelines, especially in the rural communities of Tolland, Bolton, Coventry, and Mansfield. These unavoidable adverse impacts could be mitigated by local land use regulations and zoning, with the Town of Mansfield considered most equipped and well-positioned to directly address the risks for development along pipelines. By virtue of the shorter potential pipelines, the CWC and WWW alternatives present a lesser degree of risk than the MDC alternative.

No other unavoidable adverse environmental impacts have been identified.

Irreversible and Irretrievable Commitment of Resources – The construction of any of the interconnection alternatives will utilize nonrenewable resources during the construction and implementation (i.e., construction supplies, fuel, personnel time, etc.). Since these resources cannot be reused, they are considered to be irreversibly and irretrievably committed. Specifically, these include the following actions:

- Clearing;
- Access road construction;
- Installation of water mains to connect to the University and Mansfield; and
- Installation of associated infrastructure, treatment plant expansion, etc.

OPPORTUNITIES FOR MITIGATION

Numerous opportunities for mitigation of adverse impacts have been identified. These have been described throughout the document. Table ES-6 provides a summary. The two primary areas for

mitigation are for land uses and associated secondary growth and streamflow mitigation associated with increased water withdrawals.

As indicated above, the Town of Mansfield is undergoing a comprehensive and detailed revision of its regulations and has proposed an overlay zone to restrict development in areas of public water supply such that local development is consistent with the state plan. The proposed overlay zone will restrict development within potential pipeline areas for the purpose of controlling unwanted or unanticipated secondary growth.

Secondary growth mitigation is possible in other communities where potential pipeline routes traverse land that, were it developed as a direct result of the availability of public water supply, would be contrary to the State Plan, local planning and zoning designations, or local plans of conservation and development. This is the case in Tolland, Coventry, and Bolton; however, those communities have not committed to such protections at this time. In the case of Coventry and Bolton, discrepancies exist between the community's local vision and the State Plan such that mitigation through development protections may not have local support.

TABLE ES-6
Opportunities for Mitigation

Mitigation Opportunities	Alternative		
	3	4	5
	CWC	MDC	WWW
Actively manage releases to rivers located downstream of reservoirs	Yes	Yes	No
Implementation of overlay zones to reduce future development densities	Yes	Yes	Yes
Coordination with various local departments, commissions, and committees regarding proposed pipelines	Yes	Yes	Yes
Pipeline designs that hang pipe on bridges or include directional drilling to prevent direct wetland impacts	Yes	Yes	Yes
Construction occurring in the summer whenever possible to minimize traffic impacts near the University	Yes	Yes	Yes
Performing a biological survey for endangered, threatened, or special concern species during the design phase to establish buffers and construction timetables to minimize the impact to these species	Yes	Yes	Yes
Adherence to best management practices to mitigate impacts to stormwater runoff	Yes	Yes	Yes
Performance of construction activities during daylight hours to minimize noise impacts	Yes	Yes	Yes
Reduction of water age, mixing in tanks, and blending with groundwater (the University's or otherwise) to reduce DBPs	Yes	Yes	Yes
Provide benefits such as emergency interconnections with other water utilities where pipelines are contrary to exclusive service areas	No	Yes	No
Provide emergency interconnection with Tolland's municipal water system	Yes	Yes	No

Under the CWC interconnection alternative, Shenipsit Reservoir withdrawals would be mitigated, as they are today, through continued releases from the Shenipsit Reservoir to the Hockanum River, to be supplanted in the future with releases that are consistent with Connecticut's streamflow regulations. For the MDC interconnection alternative, MDC is not required to release water under Connecticut's

streamflow regulations; however, they will continue to manage releases from the West Branch Farmington River reservoirs. Under the WWW interconnection alternative, Mitigation could take the form of additional releases from Mansfield Hollow Lake by the U.S. Army Corps of Engineers, although this is beyond the control of the University, Town of Mansfield, or WWW. Overall, CWC and MDC have a greater ability to actively mitigate for diminution of flows below their reservoirs.

COST AND BENEFITS

Table ES-7 presents a summary of capital costs associated with the feasible alternatives, as well as a normalized cost per million gallons (MG) of water.

TABLE ES-7
Summary of Estimated Interconnection Costs

	CWC Interconnection	MDC Interconnection	WWW Interconnection
Capital Cost	$20,268,000	$47,570,400	$47,556,200
Normalized per MG*	$10,134,400	$23,785,200	$23,778,100

*Assumes 2.0 mgd

Table ES-8 presents a comparison of potential water rates for residential and commercial customers using the Public Utility Regulatory Authority (PURA) annual household consumption value. For this analysis, commercial customers are assumed to consume an equal amount of water as residential customers, and the estimates include any applicable service charges (though not initial construction and connection fees which would be borne by the consumer).

TABLE ES-8
Summary of Average Annual Water Costs to Customers

Public Water System	Residential	Commercial
CWC	$643	$577
MDC	$549	$549
WWW	$371	$371
Town of Tolland	$413	$413
University of Connecticut	$393	$393

Sources: CWC website, MDC Website, WWW, Tolland Water Commission, UConn, Tighe & Bond
Note: Tolland rates assume that an equal amount of water is used each quarter.

Although this EIE has not estimated additional energy costs for the alternatives, the water systems that are more proximal and at higher elevations (CWC and WWW) will use less energy than systems that are distant and at lower elevations (MDC) to move water to the University and Mansfield.

The following positive benefits are expected to occur as a result of the construction of or connection to additional sources of water supply:

- Increase the University water system's MOS to above 1.15 for the 50-year planning period while meeting the four committed demands.

- Enable the appropriate supply of public water to proposed expansions on the University campus, such as the University Technology Park and redeveloped facilities at the Depot Campus as outlined in the University of Connecticut Academic Plan that will result in an overall improvement of the campus environment.

- Provide additional redundancy and flexibility to the University of Connecticut water system.

- Allow for the University to reduce potential impacts to fisheries within the Willimantic and Fenton rivers during low streamflow periods by utilizing water supply from a less sensitive area.

- Supply the Mansfield Four Corners area with public water supply, eliminating the need for utilizing existing wells in a historically contaminated area and spurring redevelopment of this area that is one of the gateways to the University of Connecticut.

- Enable the appropriate supply of public water to proposed growth areas identified in the Town of Mansfield *Plan of Conservation and Development.*

- The potential for supply redundancy to one or more small community water systems in Mansfield, as well as a potential increase in access to public water for adjacent residents with low-yielding wells or wells with poor water quality.

- Temporary engineering and construction jobs related to implementing the eventual project, as well as additional long-term jobs in the proposed University Technology Park, the redeveloped buildings on the Depot Campus, and in commercial developments in Mansfield Four Corners.

SELECTION OF PREFERRED ALTERNATIVES

In light of the foregoing analysis, three alternatives are potentially feasible, with the ability to meet the project purpose and need. While the degree and types of potential impacts vary among the alternatives, none is believed to cause significant adverse environmental impacts that cannot be mitigated. For the CWC and WWW alternatives, potential impact is similar among the alternate routing scenarios within each alternative. For the MDC interconnection, routing alternative #4B will result in significantly fewer land use conflicts between existing land uses, local zoning regulations, and the State *Conservation and Development Policies Plan.* In all cases of conflict, land use overlay zones could overcome such inconsistencies; however, at the present time, only the Town of Mansfield has committed to such a course.

Issues of cost, phasing, and financing will be critical to the ultimate action taken. Financial feasibility and project affordability will be informed by funding sources, cost sharing arrangements, financing mechanisms, and project phasing. Project affordability includes the total cost of ownership over time in combination with how that cost might be shared among the parties who will be the beneficiaries.

Each of the interconnection alternatives must overcome financial, technical, regulatory, and contractual hurdles to become a reality, any one of which could prevent the alternative from moving forward. As such, it is the University's intent to proceed with multiple potential "preferred" alternatives for interconnection with CWC, MDC, or WWW.

1.0 INTRODUCTION

1.1 BACKGROUND

Water supply planning in Storrs and Mansfield has been underway for nearly two decades. The University of Connecticut (University) has prepared four individual water supply plans beginning in 1994. Additionally, the Town of Mansfield prepared a water supply plan in 2002. These water supply plans provided estimates of future water demand in different geographic areas, with the University's plans focusing on the main campus, Depot Campus, and immediately adjacent areas. The Town of Mansfield's plan included more distant areas that could benefit from water supply, such as the Mansfield Four Corners area and residential neighborhoods to the west of the main campus.

The University and Town of Mansfield water supply plans published prior to 2005 each noted that the University's registered water supplies (the Fenton River wells and the Willimantic River wells) were together adequate for the foreseeable future, with over 3.0 million gallons per day (mgd) available per the water diversion registrations on file with the Connecticut Department of Energy & Environmental Protection (CT DEEP), and that future sources of supply would be needed mainly to begin supplying public water service to new areas in Mansfield.

Based on the results of the *Long Term Impact Analysis of the University of Connecticut's Fenton River Water Supply Wells on the Habitat of the Fenton River* (more commonly known as the *Fenton River Study*) in 2006, the need for reducing withdrawals from the Fenton River wells during periods of low instream flow was conclusively articulated for the first time. The University's 2007 *Water and Wastewater Master Plan* recognized that, moving forward, the Fenton River supply would be limited during the summer and fall to much lower withdrawals than the diversion registration allowed for and that additional supply sources would be needed in the future.

Meanwhile, questions were beginning to be raised about the hydrogeologic capability of the Willimantic River Wellfield to supply its registered withdrawal. Environmental groups were interested in having the Willimantic River analyzed in a manner similar to the *Fenton River Study*. These questions led, in part, to the *Report of the Willimantic River Study: An Analysis of the Impact of the University of Connecticut Water Supply Wells on the Fisheries Habitat of the Willimantic River* (more commonly known as the *Willimantic River Study*) that was completed in 2010. The study evaluated potential impacts to fisheries habitat in the Willimantic River due to withdrawals from the Willimantic River Wellfield and evaluated potential additional withdrawals at the wellfield from the standpoint that the timing of withdrawals could potentially be manipulated to reduce impacts to the river.

The two river studies concluded that the existing wellfields had likely reached their limits for public water supply.

- The *Fenton River Study* published in 2006 evaluated the impact of withdrawals at the Fenton River Wellfield on the fisheries habitat of the Fenton River and concluded that withdrawals should be reduced or ceased during low streamflow periods. Expansion of the Fenton River

Wellfield to increase the volume of withdrawals from the aquifer has not been pursued in light of the instream flow constraints identified by the *Fenton River Study*.

- The *Willimantic River Study* published in 2010 concluded that reducing withdrawals from the Willimantic River aquifer during low streamflow periods was necessary to protect fisheries habitat. Additionally, the study found that moving wells further downstream provided limited benefit and that the installation of additional wells at the wellfield would not be prudent in light of the instream flow constraints identified by the study. Expansion of the Willimantic River Wellfield to increase withdrawals from the aquifer could further exacerbate the fisheries habitat impacts during the low streamflow periods identified by the *Willimantic River Study*.

Two parallel efforts brought water supply issues to the forefront in 2010 and 2011: the University's development of its updated individual *Water Supply Plan* (submitted to state agencies in May 2011) and the Town of Mansfield's study of water supply options for redevelopment of the Mansfield Four Corners area. The University's 2011 *Water Supply Plan* identified four areas of future potable water service that were committed by the University: The Storrs Center development, the North Campus Technology Park, Depot Campus redevelopment, and the King Hill Road Planned Business Area. The 2011 *Water Supply Plan* further identified the need for an additional 0.5 mgd to 1.0 mgd of available supply to bolster available water during certain months of the year and boost margins of safety[1] (MOS) above 1.15 over the 50-year planning period. This amount of water was needed in the short/intermediate term to meet MOS requirements during periods of peak demand when Fenton projection is curtailed or ceased.

Meanwhile, the Town of Mansfield's study of water supply options for redevelopment of the Mansfield Four Corners area identified future areas of water need in the town that were not committed to by the University in its 2011 *Water Supply Plan*. Specific to the Mansfield Four Corners area, a total of 0.17 mgd of water demand has been estimated for this area through the 20-year planning period.

The University's 2007 *Water and Wastewater Master Plan*, 2011 *Water Supply Plan*, and the Mansfield Four Corners study report (2011) all included evaluations of interconnections with Windham Water Works (WWW) and The Connecticut Water Company (CWC) to provide an additional increment of water, along with preliminary evaluations of new groundwater supplies along the Willimantic River (downstream of the existing University wellfield) and in the Mansfield Hollow area (near Mansfield Hollow Lake). The three documents included varying degrees of analysis for each alternative but, in general, they all raised questions that would need to be addressed in more detail in order to evaluate and pursue an option for additional supply.

Given the mutual need for water to address potable water demands identified in the 2011 *Water Supply Plan* and the 2011 Mansfield Four Corners study report, the University and the Town of Mansfield began to collaborate to identify a source of water supply that would meet combined future needs. In June 2011, the University and the Town of Mansfield initiated the subject Environmental Impact Evaluation (EIE) under the Connecticut Environmental Policy Act (CEPA)

[1] Margin of Safety is defined as the ratio of available supply over demand. A margin of safety of 1.15 implies that a water system has 15% more water available than demand. This 15% provides a buffer against unforeseen circumstances, such as water main breaks or other emergencies.

to allow for a detailed evaluation of potential interconnection and groundwater supply alternatives. An additional water supply will have the dual benefit of increasing the University's MOS while also providing potable water for use on campus and in the town of Mansfield consistent with the town's *Plan of Conservation and Development* (POCD) and zoning regulations.

1.2 PROJECT PURPOSE AND NEED

In May 2011, the University submitted the latest five-year update of its *Water Supply Plan* to the Connecticut Department of Public Health (DPH) and other state agencies. The *Water Supply Plan* analyzed committed future demands over the next 50 years and concluded that the four areas of committed future demands will require approximately 360,000 gallons per day (gpd). The projections in the *Water Supply Plan* assume that Fenton River Wellfield Well D will be approved for limited use[2] during seasonally dry periods and that reclaimed wastewater will be available for future nonpotable uses such as cooling, heating, and potentially irrigation of turf grass. The reclaimed water facility is anticipated to be operational by December 2012, and limited use of Well D is pending approval from the CT DEEP.

Even with these efforts to bolster supply and reduce potable water demand, the MOS of the University water supply system during maximum demand months is predicted to drop below the DPH's MOS goal of 1.15. Based on the information presented in Tables 7-17 and 7-18 of the 2011 *Water Supply Plan*, a minimum of 0.32 mgd of new water supply will be necessary to meet the maximum month[3] MOS goal of 1.15 in 2060, and a minimum of 0.73 mgd of new water will be necessary to meet the peak day[4] MOS goal of 1.15 in 2060. Any currently unforeseen additional demands realized by the University will, in turn, further impact the MOS of the University's water supply system and thereby increase the need for additional water supply.

A water supply expansion or interconnection to supply the Mansfield Four Corners area has long been a goal of the Town of Mansfield. The Mansfield Four Corners area is considered to be one of several "gateways" to Mansfield and the University, but several of the businesses in the area have been shuttered. The decline of this area has been partly attributed to the lack of adequate, clean drinking water and safe sewage disposal. Furthermore, the lack of reliable water supply in the Mansfield Four Corners area has been cited as a significant limitation on redevelopment. Water quality and quantity issues in this area have historically been difficult to address without the comprehensive solution afforded by an extension of water and sewer utilities. The availability of public water supply in this area is believed key to revitalization efforts. A potable water demand of approximately 170,000 gpd is estimated for this area through the end of the 20-year planning period.

In 2011, the State of Connecticut passed legislation (Senate Bill No. 1242 - Public Act No. 11-57) authorizing the issuing of bonding for the purpose of the development of the proposed

[2] Such use of Well D would be in accordance with its diversion registration and the operating procedures presented in the Wellfield Management Plan (2011).
[3] While 0.32 mgd will need to be available to maintain a MOS of 1.15, a lesser quantity (0.04 mgd) would be needed for actual consumption.
[4] While 0.73 mgd will need to be available to maintain a MOS of 1.15, a lesser quantity (0.38 mgd) would be needed for actual consumption.

Technology Park on the University's North Campus. Cognizant of the need for public water service by the University and the Town of Mansfield, this legislation authorizes the University to charge for and supervise on- and off-campus improvements and states that the University shall work in consultation with the Town of Mansfield regarding any on-site or off-site utilities that are financed pursuant to the proposed Technology Park. In particular, this legislation enables the University to work with the Town of Mansfield in regard to extending water and sewer service to Mansfield Four Corners.

In order to enable growth of the University and the surrounding area consistent with the University's master plans and associated environmental analysis and the Town of Mansfield's *Plan of Conservation and Development*, the University and the Town of Mansfield are evaluating alternatives that will identify a viable long-term public water supply source. This additional supply would have the dual benefit of increasing the MOS of the University water supply system while also providing potable water for use on campus, in the Mansfield Four Corners area, and elsewhere in town.

The need for additional water supply is driven by existing and future water demands as follows:

1. Need for Sufficient MOS – MOS is thoroughly evaluated in the University's *Water Supply Plan* (2011) and in the water demand projections of the *Water and Wastewater Master Plan* (2006). A minimum of 0.32 mgd of new water supply will be necessary to meet the maximum month MOS goal of 1.15 during periods of peak demand and when the Fenton River Wellfield is curtailed or offline. This includes existing system demands plus committed water supply both on and off campus. It also accounts for the reduction of demand that will occur once the reclaimed water facility comes on line. Off-campus committed demands include Storrs Center and King Hill Road Planned Business Area. Of the 0.32 mgd quantity, only 0.04 mgd would be needed for consumption; the remainder would be placed on standby for MOS. A minimum of 0.73 mgd of new water will be necessary to meet the peak day MOS goal of 1.15 in 2060. Of the 0.73 mgd quantity, only 0.38 mgd would be needed for consumption; the remainder would be placed on standby for MOS.

2. Additional Incremental Demand to Supply the Technology Park – The proposed Technology Park on the University's North Campus was allocated a committed water demand of 89,600 gpd in the 2011 *Water Supply Plan*. This figure was revised in May 2011 from prior estimates through a tabulation of potential gross square footage of buildings to be constructed in the Technology Park. At the present time, higher average water demands are being forecast for the Technology Park. Current estimates are approximately 423,500 gpd. With 89,600 gpd already set aside in the 2011 *Water Supply Plan* and analyzed as part of the water needed to maintain future margins of safety, the increment of 333,900 gpd is therefore an additional future water demand. Maximum month demands and peak day demands will be somewhat higher although the timing of peaking factors is likely to be different for each parcel in the Technology Park, depending on the use (i.e., classroom versus year-round research). The analysis on page 6-25 of the 2011 *Water Supply Plan* provides the rationale and justification to support a ratio of 1.33 for peak day planning calculations. This factor is applied to the average day demand of 333,900 gpd to estimate a peak day demand of 444,087 gpd. Applying the desired 15% MOS yields the following demand forecasts:

TABLE 1.2-1
Additional Incremental Technology Park Demand

Condition	Base Demand	Base Demand Plus 15% MOS
Average Day	333,900 gpd	383,985 gpd
Peak Day	444,087 gpd	510,700 gpd

3. Future Town of Mansfield Demand – In addition to the previously committed water service in the Town of Mansfield, the town has identified previously uncommitted demands associated with the Mansfield Four Corners development (170,000 gpd), a planned elderly and assisted living facility (30,000 gpd), and a number of residential development areas as identified in Tables 2-9, 2-10, and 2-11 of the *Water and Wastewater Master Plan* (totaling 253,500), for a total average day demand of 453,500 gpd. Provision of public water to these areas is consistent with Mansfield's *Plan of Conservation and Development*. Similar to the Technology Park, factors are applied to obtain peak day demand as well as a 15% MOS as follows:

TABLE 1.2-2
Additional Demand Within the Town of Mansfield

Condition	Base Demand	Base Demand Plus 15% MOS
Average Day	453,500 gpd	521,525 gpd
Peak Day	603,155 gpd	693,628 gpd

In total, the following additional water supply is needed to meet peak day demands in the 50-year planning horizon (2060) with a 15% MOS:

TABLE 1.2-3
Incremental Water Supply Demand in 2060

Need	Average Day Demand With 15% MOS	Peak Day Demand With 15% MOS
Committed Water Supply Demand	*320,000 gpd	730,000 gpd
Additional Incremental Technology Park Demand	383,985 gpd	510,700 gpd
Additional Town of Mansfield Demand	521,525 gpd	693,628 gpd
TOTALS:	***1,225,510 gpd***	***1,934,328 gpd***

*Due to the manner in which the demand was computed in the University's 2011 *Water Supply Plan*, maximum month average day demand is used in this table as a proxy for average day demand.

The above numbers are consistent with the University's *Water Supply Plan* and the *Water and Wastewater Master Plan*, both of which have been vetted by the public, Town of Mansfield officials, and state regulatory agencies.

4. Additional Future University Demand – The water supply planning period extends to the year 2060. It is likely that additional on-campus demands will materialize in that timeframe for uses that are as-of-yet undefined. Potential demand generators include the following:

- Increased student population, with associated housing needs.
- Expanded student recreational and/or athletic facilities, potentially including practice facilities, indoor recreational facilities, recreational fields (i.e. flag football, recreational soccer, rugby, baseball, and softball), athletic fields (i.e. football, soccer), and ice sports.
- Additional classroom space, student laboratory space, and faculty offices.
- Additional research space.

The extent to which the above demands may materialize is unknown at this time, as is any associated timing. As such, a specific value cannot be ascribed to the water demand such uses might require. However, some measure of growth is likely. As such, alternatives will be evaluated for their ability to expand to accommodate additional future potential on-campus growth.

Each of the alternatives will be measured against the ability to meet the project need.

1.3 DESCRIPTION OF THE PROPOSED ACTION

The proposed action is the extension of water to Mansfield and Storrs to augment the University's water supply system to serve current and future needs through the 50-year planning horizon (2060). This action involves extending water supply transmission piping and connecting to a new source or sources of supply.

1.4 RELATIONSHIP TO OTHER PROJECTS AND PLANNING DOCUMENTS

Numerous planning documents related to the proposed action have been evaluated in the context of this EIE, including the following:

The University of Connecticut North Campus Technology Park Final Environmental Impact Statement

The University has been proposing to extend North Hillside Road and develop a research and technology park in the North Campus area since the 1970s. The document entitled *Final Environmental Impact Statement – North Hillside Road Extension* (FEIS) was released in October 2011 and approved in 2012. This document, prepared under the oversight of the Federal Highway Administration, the Connecticut Department of Transportation, and the University of Connecticut, was the culmination of research and planning activities dating back to the mid-1990s. The proposed project will construct a 3,400 foot long, 32 foot wide two-lane roadway from the current terminus of North Hillside Road to Route 44. The extension will facilitate the development of the proposed Technology Park in this area of North Campus as well as provide an alternative entrance to the University.

The subject EIE is relevant to the Technology Park project in that more than 25% of the new water demand to be satisfied is associated with the Technology Park. Many of the alternatives and scenarios evaluated in the subject document propose the installation of a water main in North Hillside Road Extension. The FEIS noted that the construction of the new roadway would include the installation of utilities such as potable water, nonpotable reclaimed water, sanitary

sewer, storm drainage, telecommunications, primary electrical, natural gas, street lighting, and emergency phones. Construction of the roadway and associated water mains is vital to the eventual development of the Technology Park as development of individual water supply wells for the Technology Park buildings is believed to be neither prudent nor practical.

The Town of Mansfield Water Supply Plan

Although the Town of Mansfield does not currently operate a water system, the town developed its *Water Supply Plan* in 2002 for the purpose of evaluating drinking water supply needs in Mansfield, particularly in those areas not served by the University. The information generated in that document has been referenced and utilized in subsequent planning documents. It notes that the majority of the town is served by small water systems that often have chronic water quality or quantity issues. These systems are located in northern Mansfield in areas proximate to the University's Main and Depot campuses. The document also identified as potential sources of water supply two of the interconnections and several of the potential wellfields evaluated in the subject EIE.

The Town of Mansfield's 2002 *Water Supply Plan* summarized projected new water demands, including developable land as well as small public water systems that were considered candidates for an expanded University or municipal water supply. The discussion was categorized into *Existing and/or Committed UConn Water Service* and *Areas Not Served by UConn Water System.*

The existing and/or committed University service areas in the 2002 *Water Supply Plan* include:

- The North Campus area
- The Storrs Center project area
- Additional University housing
- Holinko Apartments
- North Eagleville Road/King Hill Road planned business area
- The Depot Campus

Outlying areas of potential water demand that the University did not commit to serving with its potable water system included residential areas, existing community water systems, and potentially developable land that are proximal to the University system.

Town of Mansfield Plan of Conservation and Development

The Town of Mansfield adopted its most recent *Plan of Conservation and Development* in 2006. The policies and programs contained therein were reviewed to determine whether the potential sources of water supply would be consistent with the plan. The *Plan of Conservation and Development* is relatively specific and provides significantly more commentary and guidance for water system expansion and usage as compared to many municipal plans. It calls for encouraging "*appropriately located higher-density development by expanding existing sewer and public water services where appropriate*" but stresses the need for environmentally appropriate limitations to water supply. To that end, the plan recommends "working with the University of Connecticut, the Town of Windham, and State officials to plan, fund, and construct appropriate expansions of existing sewer and water systems."

The Four Corners area is specifically identified in Mansfield's *Plan of Conservation and Development* as a redevelopment area. Policy Goal #1, Objective "a" of the POCD calls on the town to "*support initiatives to document surface and groundwater quality and public health issues in the Four Corners area and to seek State and Federal funding to extend public sewer and water services to this area.*" It further notes that this effort is of "*immediate importance*" and must be coordinated with the University and other pertinent agencies. Objective "c" of Policy Goal #1 notes that the Four Corners area is a priority mixed-use development area.

The University of Connecticut Water Supply Plan

For certain regulated water utilities in Connecticut, water supply plans must be completed in accordance with Section 25-32d of the Connecticut General Statutes (CGS) and Section 25-32d of the Regulations of Connecticut State Agencies (RCSA), as may be updated from time to time. These regulations and the supporting statutes recognize that planning is a critical management activity of all water utilities. The principal goals of water system planning as defined by the DPH are to: (1) ensure an adequate quantity of pure drinking water now and in the future; (2) ensure orderly growth of the system; and (3) make efficient use of available resources.

The University is statutorily defined as a constituent unit of higher education pursuant to CGS Chapters 185 and 185b and not a "water company" as set forth in CGS Section 25-32a. Nevertheless, the University operates a public water system and views the *Water Supply Plan* as integral to planning for a safe and adequate water supply system for the foreseeable future. The University completed its most recent plan update in May 2011 and submitted it to DPH for approval. That document has been reviewed in light of the proposed regional water supply interconnection relative to its consistency with policies, programs, and planned projects of the University.

The University has a variety of existing and future demands that it has committed to serving, including the North Campus Technology Park, Storrs Center, the North Eagleville Road/King Hill Road planned business area, and the Depot Campus. As demonstrated in the most recent *Water Supply Plan*, the University's ability to serve those demands while maintaining a 15% MOS is adversely affected during higher demand months due to restrictions in available water. The *Water Supply Plan* outlines several potential alternatives to increase MOS in the short term, including limited utilization of Fenton Well D and the construction of a reclaimed water facility. Intermediate and long-term demands will need to be met through interconnections or new sources of supply that can provide 0.32 mgd to 0.72 mgd to the University in order to maintain a MOS of 1.15 through the year 2060; a value of 0.5 mgd for new water was used in the 2011 *Water Supply Plan* for planning purposes. This need, in conjunction with potential water demands identified in the town of Mansfield, led in part to the decision to undertake the subject EIE.

As noted in the University's 2011 *Water Supply Plan*, several of the committed demand areas presented in the 2002 Town of Mansfield *Water Supply Plan* have been incorporated into the University's service area over the past 10 years. Note the following:

- Many new University housing projects have been completed, including Hilltop Apartments, Charter Oak Apartments, and Charter Oak Suites. New University housing formerly proposed to be located at or west of Northwood Apartments is no longer proposed.

- Holinko Apartments is now serviced by the University water system.
- The Storrs Center project is currently under construction.
- The FEIS has been approved for the extension of North Hillside Road in association with the new Technology Park. Implementation of this project is expected to occur within the next five years.
- Redevelopment or new development on some sections of the Depot Campus have occurred and will continue during the next five years.
- While the North Eagleville Road/King Hill Road planned business area currently has no redevelopment plan, this could occur at any time.

The Connecticut Water Company Water Supply Plan

The CWC prepared its most recent water supply plan for the Northern Operations region in 2006. This document has been reviewed in light of a regional water supply interconnection relative to its consistency with policies, programs, and planned projects of CWC. In Sections 2.3 (Interconnections), 4.3 (Future Service Areas), and 5.2 (System Improvements), CWC's water supply plan notes the need for an interconnection between its Western System in Tolland and the University of Connecticut system "*within the next five years*" to help the University meet peak demands, provide critical supply redundancy, and provide potable water to additional areas of Mansfield. In Sections 2.3 (Interconnections) and 4.3 (Future Service Areas), the water supply plan identifies the need to permanently address chronic supply issues in northwestern Mansfield.

Coincident with the University's individual water supply plan submittal in May 2011, DPH requested additional information from CWC to evaluate future margins of safety in the Northern Region's Western System. In October 2011, CWC completed an update to its *Northern Operations Western System Water Supply Plan* and submitted it to DPH for approval. Water supply projections were updated through October 2011.

The Metropolitan District Commission Water Supply Plan

The Metropolitan District Commission (MDC) prepared its most recent water supply plan in 2008. This document has been reviewed in light of a regional water supply interconnection relative to its consistency with policies, programs, and planned projects of the MDC. Although the plan includes a detailed discussion about interconnections in Section III-C, potential future service to the University and Mansfield is not included or discussed in the plan. Instead, Section VIII-A states that "*The District does not at this time anticipate extension of the water distribution system outside this [exclusive service area] boundary. The District would work with the [Upper Connecticut River] Water Utility Coordinating Committee in determining additional future services areas that it might advantageously serve.*"

The Windham Water Works Water Supply Plan

WWW completed its most recent *Water Supply Plan* update and submitted it to DPH for approval in February 2009. Comments were received from DPH in June 2011, and the plan was revised in September 2011. This document and DPH's comments have been reviewed in light of a regional water supply interconnection relative to its consistency with policies, programs, and planned projects of WWW.

The WWW *Water Supply Plan* states that an interconnection with the University is a possibility. It further notes that if any water were made available for use by the University it would be necessary to increase the WWW treatment plant capacity and amend its diversion permit to allow a withdrawal that maintains a 15% MOS under average day, maximum month, and peak day conditions.

DPH commented in June 2011 that, based on the information in the *Water Supply Plan*, WWW appears to be able to supply an additional 1.0 mgd and still maintain the 15% MOS except on peak days. Treatment plant upgrades would therefore be necessary to support peak day demands and, as such, could potentially be performed over a longer period of time. However, the comments offered by DPH were written prior to WWW's plan revision, which was subsequently submitted and is currently under review.

Conservation and Development Policies Plan for Connecticut

The *Conservation and Development Policies Plan for Connecticut (2005–2010)* (the State Plan) provides the policy and planning framework for administrative and programmatic actions and capital and operational investment decisions of state government. The objective of the plan is to guide a balanced response to the current and future human, economic, and environmental needs of the state. The plan has been consulted extensively to evaluate the consistency of the proposed sources of water supply with the goals and policies relative to land use, growth management, sensitive environmental resources, resource management, public investment, the economy, and integrated planning. The pertinent guidelines and policies set forth in the plan are presented throughout the subject EIE.

Capitol Region Plan of Conservation and Development

The Capitol Region Council of Governments (CRCOG) regional planning organization adopted its most recent Plan of Conservation and Development in 2009. This land use plan is pertinent to activities in the town of Tolland. The policies and programs were reviewed to ensure that a potential water supply interconnection would be in accordance with CRCOG's conservation and development plan. Chapter 8 of the document discusses public sewer and water service. The plan calls for ensuring an adequate and high quality water supply primarily through partnership with existing service providers and by supporting efforts to protect high-yield aquifer areas. The plan suggests that member towns "*use existing water and sewer infrastructure to guide future growth*" and to "*work with local officials and utility providers to encourage the development of an infrastructure system that meets desired local and regional growth patterns.*"

Windham Region Land Use Plan

The Windham Region Council of Governments (WinCOG) regional planning organization adopted its most recent land use plan in 2010. The plan is pertinent to activities in the towns of Coventry and Mansfield. The policies and programs were reviewed to ensure that a potential water supply interconnection would be consistent with the plan. In addition, WinCOG provided a comment letter regarding the University's most recent *Water Supply Plan* that addresses the potential water supply alternatives outlined in this EIE. In particular, WinCOG noted that:

- The proposal to seek additional water to support the growth of Storrs (including the University of Connecticut Main Campus, Downtown Storrs, and Mansfield Four Corners) is consistent with the goals of the Windham Region Land Use Plan as the area is demarcated as a Regional Center.

- Development should be sensitive to water resources and public water supply recharge areas particularly as it relates to impacts to the Fenton River and Willimantic River systems.

- The provision of public water supply to areas not demarcated as a Regional Center may not be consistent with the goals of the Windham Land Use Plan. Specifically, the plan does not support the provision of water for additional development activities along roadway corridors that are designated as Rural Conservation Areas or Preservation Areas.

12.0 SELECTION OF PREFERRED ALTERNATIVE

12.1 ABILITY TO MEET PROJECT NEED

Alternatives were evaluated in Sections 5 through 11 of this document. Feasible alternatives must be able to:

1. Supply a safe and reliable supply of potable water in the amount of 1.23 million gallons per day (mgd) during average day demand (ADD) conditions.

2. Supply a safe and reliable supply of potable water in the amount of 1.93 mgd during peak day demand (PDD) conditions.

3. Have the ability to expand to accommodate additional future potential on-campus growth.

Table 12.1-1 summarizes the capability of each alternative to meet the project purpose and need.

TABLE 12.1-1
Ability of Each Alternative to Meet Project Need

Alt. #	*Alternative Name*	*Able to Deliver ADD of 1.23 mgd?*	*Able to Deliver PDD of 1.93 mgd?*	*Able to Expand to Accommodate Additional Future Growth?*
#1	No Action	No	No	No
#2	Replacement of Fenton Well A	No	No	No
#3	Interconnection with CWC	**Yes**	**Yes**	**Yes**
#4	Interconnection with MDC	**Yes**	**Yes**	**Yes**
#5	Interconnection with WWW	**Yes**	**Yes**	**Yes**
#6	Development of New Groundwater Supply along Willimantic River	No	No	No
#7	Development of New Groundwater Supply Near Mansfield Hollow Lake	No	No	No

CWC = Connecticut Water Company
MDC = Metropolitan District Commission
WWW = Windham Water Works

Alternatives 3, 4, and 5 (interconnection with Connecticut Water Company, the Metropolitan District Commission, and Windham Water Works, respectively) are able to meet the project purpose need. The manner in which this can be accomplished is as follows:

- Connecticut Water Company (CWC) would draw upon the Shenipsit Reservoir while utilizing groundwater supply wells at Powder Hollow, Hunt, Preston, and other Northern Region wells within their existing registered withdrawal rates. System improvements include return of the Preston Wellfield to active use; recovery of registered capacity from the Powder Hollow and Hunt Wellfields; and expansion of the Rockville Water Treatment Plant (WTP). Piping extension would be required from the terminus of CWC's system in Tolland through a short distance in the Town of Coventry, and into Mansfield.

- The Metropolitan District Commission (MDC) would draw upon the Barkhamsted and Nepaug Reservoirs in the Farmington River basin within their existing registered withdrawal rates. Piping extension would be required from the terminus of MDC's system in East Hartford via one of two contemplated routes. Route #4A runs through portions of Manchester, Bolton and Coventry and then into Mansfield. Route #4B runs through portions of Manchester, South Windsor, Vernon, Tolland, and Coventry before entering Mansfield.

- Windham Water Works (WWW) would draw from the Willimantic Reservoir upstream of the lower reach of the Natchaug River. In order to reliably provide the University and the Town of Mansfield with additional water supply while maintaining an adequate margin of safety (MOS), WWW would require a new or modified diversion permit and a treatment plant expansion. Additionally, WWW has indicated that removal of sediment from the Willimantic Reservoir would be required by its Water Commission if this alternative were pursued.

12.2 ENVIRONMENTAL IMPACTS

A summary of potential impacts is provided below for the feasible alternatives.

12.2.1 LAND USE

Table 12.2-1 summarizes state-designated land uses and current zoning by town for the interconnection pipeline routes. The *Conservation and Development Policies Plan* for Connecticut (the State Plan) discourages provision of public water supply in areas designated as existing preserved open space, preservation areas, conservation areas, rural lands, aquifer protection areas, and historic areas.

The intended developments for which a new source of supply is being sought are all located within the Town of Mansfield in areas where such development is consistent with State Plan designations. These developments are also consistent with local zoning regulations and the Town of Mansfield's *Plan of Conservation and Development*. Under all feasible alternatives, transmission pipeline will be laid through areas in town that pass through State Plan-designated areas that are not intended for public water supply service (Refer to Figure 4.1-1). In order to address this discrepancy, the Town of Mansfield is undergoing a comprehensive and detailed revision of its regulations and has proposed overlay zones to restrict development in areas of public water supply such that local development is consistent with the State Plan. The proposed overlay zones will restrict development along potential pipeline routes within the Town of Mansfield where intense development would be inconsistent with the State Plan, local zoning designations, and/or Mansfield's *Plan of Conservation and Development*. In this manner, unwanted or unanticipated secondary growth can be avoided.

Secondary growth in the Towns of Tolland, Coventry, and Bolton could be affected by various pipeline routes associated with the interconnection alternatives. These are discussed below.

TABLE 12.2-1
State Plan Designations, Zoning, and Summary of Recommended Mitigation per Town

Town Name	Interstate or Roadway	Alternatives Considered[1]	Adjacent Zoning Districts	State Plan Designations[2]								Existing PWS?	Mitigation
				RC	NC	GA	RCC	EPOS	PA	CA	RL		
Mansfield	Route 195 (northwest)	CWC, MDC	Neighborhood Business Zone 1							X		No	Overlay Zone
			Rural Agricultural Residence 90					X	X	X	X	No	Overlay Zone
			Professional Office 1							X	X	No	Overlay Zone
			Residence 90						X	X		No	Overlay Zone
			Planned Business 3			X						No	Overlay Zone
	Baxter Road/Route 44	CWC, MDC	Rural Agricultural Residence 90					X	X	X	X	No	Overlay Zone
			Planned Business 3			X						No	Overlay Zone
	Route 44	MDC	Neighborhood Business Zone 1							X		No	None
			Rural Agricultural Residence 90		X	X		X	X	X	X	Partial	Overlay Zone
			Institutional		X							Partial	None
	Chaffeeville Road	WWW	Rural Agricultural Residence 90					X	X	X		No	Overlay Zone
	Clover Mill/Maple Road	WWW	Rural Agricultural Residence 90					X	X	X	X	No	Overlay Zone
Coventry	Route 195	CWC, MDC	Neighborhood Commercial							X		No	None
			River/Aquifer Zone						X	X		No	None
	Route 44	MDC	Commercial				X		X	X	X	No	Possible Overlay Zone
			Professional Office							X	X	No	Possible Overlay Zone
			Commercial/Agricultural						X	X	X	No	Possible Overlay Zone
			General Residential Zone 80				X	X	X	X	X	No	Possible Overlay Zone
			General Residential Zone 40						X	X	X	No	Possible Overlay Zone
			River/Aquifer Zone						X	X		No	Possible Overlay Zone
Tolland	I-84	MDC	Commercial/Industrial			X		X				Yes	None
			Tolland Business Park			X		X				Yes	None
			Residential Design District					X	X	X	X	No	Possible Overlay Zone
			RDD-Nat. Resource & Wildlife					X	X	X	X	No	Possible Overlay Zone
			Tolland Village Area				X					Yes	None
			Gateway Design District				X					Yes	None
	Route 195	CWC, MDC	Gateway Design District				X					Yes	None
			Neighborhood Commercial				X					Yes	Possible Overlay Zone
			Residential Design District						X	X	X	No	Possible Overlay Zone
			RDD-Nat. Resource & Wildlife						X	X	X	No	Possible Overlay Zone
Bolton	I-384	MDC	Residential 1						X	X	X	No	Possible Reg. Amendment
			Residential 2							X		No	None
			Industrial							X		No	None
			General Business							X		No	None
	Route 44	MDC	Residential 1						X	X	X	No	None
			Residential 2								X	No	None
			Residential 3						X	X	X	No	None
			Industrial								X	No	None
			General Business						X	X	X	No	None
Vernon	I-84	MDC	Commercial		X	X			X	X		Partial	None
			Single-Family Residential R-27		X	X		X	X	X	X	Partial	None
			Planned Residential Development		X							Yes	None
			Special Economic Development		X	X						Partial	None
			Industrial			X			X	X		Yes	None
			Planned Development - Exit 67		X	X			X	X		Yes	None
Manchester	I-84	MDC	Rural Residence		X				X			Yes	None
			Residence B		X							Yes	None
			Industrial		X				X			Yes	None
			Planned Residential Development		X				X			Yes	None
			General Business		X				X			Yes	None
			Comprehensive Urban Develop.		X							Yes	None
			Business 5		X							Yes	None
			Residence A		X							Yes	None
			Special Design Commercial		X							Yes	None
	I-384	MDC	Industrial		X	X						Yes	None
			Rural Residence		X	X		X		X		Partial	None
			General Business		X							Yes	None
			Elderly Housing Development		X							Yes	None
			Business 1	X	X							Yes	None
			Business 2	X	X							Yes	None
			Residence AA	X	X			X				Yes	None
			Residence A		X							Yes	None
			Residence B	X	X							Yes	None
			Residence C	X	X							Yes	None
			Planned Residential Development	X	X							Yes	None
			Historic	X								Yes	None
South Windsor	I-84	MDC	Industrial		X							Yes	None

Notes

1. CWC = The Connecticut Water Company
   MDC = The Metropolitan District
   WWW = Windham Water Works

2. State Plan Designations:
   - RC Regional Center
   - NC Neighborhood Conservation
   - GA Growth Area
   - RCC Rural Community Center
   - EPOS Existing Preserved Open Space
   - PA Preservation Area
   - CA Conservation Area
   - RL Rural Lands

Alternative 3 – CWC Interconnection

The CWC system in Tolland has a terminus on Route 195 on the north side of Interstate 84. Under this alternative, water mains would be installed beneath existing roads in Tolland, Coventry, and Mansfield to interconnect the CWC water system with the University's system. Existing and potential future land uses as well as the potential for secondary development have been evaluated for this alternative. Potential land use impacts in Tolland and Coventry are described below.

Land Uses in Tolland

Approximately 1.6 miles of pipeline would traverse Route 195 in the town of Tolland in areas that do not currently have access to public water supply (Refer to Figure 3.4-1). Public water service is currently available through the town of Tolland on Anthony Road and the portion of Route 195 northwest of Anthony Road. Therefore, risk for induced development in this area as a result of a future CWC supply to the University and Mansfield is low. Public water service is not currently available in the Residential Design District (RDD) and RDD-Natural Resource and Wildlife Protection Area district located southeast of Anthony Road. As such, these areas may be vulnerable to induced development if a water main were to become available with excess capacity to supply individual properties. However, development potential is limited. Note the following:

- Most of the parcels on the eastern side of Route 195 are relatively small and developed with single family homes. These are unlikely to be redeveloped.

- The parcel containing Norwegian Woods has additional room for expansion. Expansion of multi-family/moderate-density residential on this parcel is consistent with Tolland's future land use plan in its *Plan of Conservation and Development.*

- The large parcel between Norwegian Woods and Dimock Road is preserved as open space and is therefore unlikely to be developed.

- Many small parcels with existing single family homes are located along the west side of Route 195. These are unlikely to be redeveloped.

- Seven or eight large parcels on the west side of Route 195 have development potential. These are located on the eastern side of Cassidy Hill and support many wetlands and Clark Brook, thus developable land is limited. The "Future Land Use Plan" in Tolland's *Plan of Conservation and Development* denotes this area as "low-density residential."

If public water is made available along Route 195 in Tolland, additional development could occur. However, given the limited amount of potentially developable land area, secondary growth impacts, if they occur, are not anticipated to be significant.

Land Use in Coventry

Route 195 traverses a small portion of the Town of Coventry, approximately one-quarter mile in length (Refer to Figure 3.4-2). The road passes through a State-designated Conservation Area

with a small adjacent Preservation Area (Refer to Figure 4.1-4). Ideally, local zoning designations should support the intended density and character of development reflected in the State Plan. When local zoning is not consistent, a departure in the type and density of development can occur. The Coventry *Plan of Conservation and Development* and zoning map are in conflict with both the State Plan and the Windham Council of Governments (WinCOG) Land Use Plan where Route 195 traverses the town.

Parcels located in the area of the CWC pipeline segment along Route 195 (11 and 12A) and on Jones Crossing Road (12B) in Coventry are described below:

- The parcels denoted as a Special Planning Area (Neighborhood Commercial) are currently developed with single family homes. It is possible that with the provision of public water, these areas could be redeveloped into a more intense land use. The recent rezone to Neighborhood Commercial would allow a hotel, a use that the town is believed to support.

- The large parcel associated with the Storrs Community Church is primarily located in the 1% annual chance floodplain of the Willimantic River such that subdivision of this parcel would not result in significant development or changes in community demographics.

- The large parcel located between Jones Crossing Road and Route 195 is also in the 1% annual chance floodplain such that subdivision of this parcel would not result in significant development. Similarly, the large parcel on the south side of Jones Crossing Road leading to the river currently supports a home and agriculture use. Limited development potential exists there.

- The 60.9-acre parcel west of Jones Crossing Road slopes steeply to the west and northwest up Cassidy Hill. Development of this parcel would be difficult. It is located in a General Residential Zone (GR-80), which is low density residential zone. A variety of residential uses would be allowable through Special Permit.

None of the above parcels have public sewer service. If public water is made available along Route 195 in Coventry, additional development could occur. However, this is a small land area and secondary growth impacts, if they occur, are anticipated to be limited.

Alternative 4 – MDC Interconnection

The Metropolitan District Commission (MDC) public water system in East Hartford could be extended through various pipeline routing alternatives to supply the University and the Town of Mansfield (Refer to Figure 3.5-2). An interconnection with MDC has the potential to affect land uses in the towns through which the potential pipeline routes occur.

Two pipeline routes are possible to provide water from MDC's system in East Hartford. The first would run from East Hartford, through Manchester, Bolton, and Coventry to Mansfield (Routing #4A). Land areas in East Hartford and Manchester are currently served by public water along the affected pipeline segments such that impacts to land use are not expected. Potential impacts to Bolton and Coventry are described below.

Land Uses in Bolton

Potential pipeline routing through Bolton runs along Interstate 384 for approximately 1.6 miles and then along Route 44 for another 1.6 miles (Refer to Figure 3.5-2). The majority of land along the I-384 corridor is zoned residential. Single-family residential development already covers much of these areas, but a few large undeveloped parcels are present, especially between the Manchester town line and Route 85. Bolton's *Plan of Conservation and Development* clearly calls for the rural residential character of the town to remain intact in areas that are not located along Route 44 and Route 6.

From its junction with Interstate 384 and eastward, Route 44 passes through State-designated Rural Lands and Conservation Areas, with some adjacent Preservation Areas and Existing Preserved Open Space (Refer to Figure 4.1-1).

The Town of Bolton has a strong vision for Route 44 and clearly desires the extension of water and sewer systems to support business and related development. As noted in the town's *Plan of Conservation and Development*, the current State Plan conflicts with Bolton's intended management of the Route 44 corridor. The Capital Region *Plan of Conservation and Development* designates the entire Route 44 corridor in Bolton as a "Municipal Focus Area" with Middle Intensity Development designated along the roadway.

The presence of the water main is expected to enable the Town of Bolton to encourage specific types of mixed-use, commercial, and industrial developments along Route 44. In addition to commercial development, it is possible that several hundred residential parcels could develop in new mixed-use or residential developments along Route 44. Along Interstate 384, several large parcels zoned as R-1 and R-2 are located adjacent to the State right-of-way along the pipeline route such that these areas could be served by a water main even with access to these areas occurring from a road other than the highway. Potential residential development adjacent to Interstate 384 could increase local population up to 500 people if parcels were fully developed, with additional population increases realized via potential residential and mixed-use developments along Route 44.

Land Uses in Coventry

Route 44 passes through mainly state-designated Rural Lands and Conservation Areas in the Town of Coventry. The intersection of Route 44 with Main Street/Grant Hill Road is surrounded by a small area designated as a Rural Community Center. Very small Preservation Area designations cross Route 44 along watercourses. One Existing Preserved Open Space designation is located on the north side of Route 44 between North River Road and Carpenter Road; this is the Manchester Coon and Fox Club land.

Although Rural Lands and Conservation Areas comprise most of the corridor, a subtle distinction can be made between lands west of the Rural Community Center and lands to the east. West of the Rural Community Center, a higher percentage of the land is designated as Conservation Area. East of the Rural Community Center, a higher percentage of the land is designated as Rural Lands. However, for the purpose of evaluating future development as a result of public water supply, all three designations (Rural, Rural Community Center, and Conservation) are addressed in the same manner. State policy is to avoid extension of water systems in these areas.

While installation of water *transmission* piping through conservation areas is not necessarily at odds with the State Plan, water service off such a line is not consistent with the Plan designations in Coventry along the entire 5.4 mile pipeline corridor. The pipeline under MDC routing scenario #4A passes residentially-developable parcels that if fully developed could increase the population of Coventry by approximately 400 people.

The second MDC interconnection pipeline route would run from East Hartford, through Manchester, a very short segment in South Windsor, Vernon, Tolland, and Coventry to Mansfield (Routing #4B). East Hartford, Manchester, South Windsor and Vernon are currently served by public water along the affected pipeline segment such that impacts to land use are not expected. Potential impacts for Tolland adjacent to Interstate 84 are described below.

Land Uses in Tolland

Routing scenario #4B crosses a similar area of Tolland as the CWC alternative described above for areas south of Interstate 84 on Route 195. This analysis realized relatively minimal impacts to land use and potential for secondary development from a potential pipeline through the area. Areas located adjacent to Interstate 84 must also be considered under the MDC alternative. These include:

- Five undeveloped or partially-developed parcels north of Loehr Road on the south side of Interstate 84 total 17.4 acres. These parcels could potentially be developed into single family homes.

- A 29.4-acre parcel located north of Interstate 84 west of an impoundment of Chapin Meadow Brook caused by the highway. The Tolland *Plan of Conservation and Development* identifies most of the developable area of this parcel as a medium open space priority.

- Three undeveloped or partially-developed parcels (totaling 55.2 acres) north of Metcalf Road and west of Cider Mill Road on the south side of Interstate 84.

If development occurred on these parcels in response to the availability of pubic water, population could increase by several hundred in Tolland.

Summary

The potential for provision of water supply in areas that would be inconsistent with the State Plan is much greater for MDC routing scenario #4A. Routing scenario #4A traverses more than three miles through rural Bolton and over five miles within the Town of Coventry that are currently designated as Rural, Preservation, and Conservation lands. Routing scenario #4B would occur along Interstate 84 in Tolland, thus somewhat more remote from adjacent, potentially developable residential land and with fewer conflicts with the State Plan.

Alternative 5 – WWW Interconnection

Transmission mains under the WWW interconnection alternative will be limited to areas within the Town of Mansfield. As indicated above, the Town of Mansfield is undergoing a

comprehensive and detailed revision of its regulations and has proposed an overlay zone to restrict development in areas of public water supply such that local development is consistent with the State Plan. In this manner, unwanted or unanticipated secondary growth can be avoided. As such, conflicts with the State Plan are believed to be resolved.

12.2.2 WATER RESOURCES

Impacts to source waters will vary depending on the selected alternative:

- Provision of water from CWC would draw upon the Shenipsit Reservoir while the Powder Hollow, Hunt, Preston, and other Northern Region wells will offset some of the treated water from Shenipsit that is distributed to the west and north. While system improvements are proposed, no new sources would be developed under this alternative and withdrawal rates would largely not exceed historic withdrawals. Reservoir withdrawals would be mitigated, as they are today, through continued releases from the Shenipsit Reservoir to the Hockanum River, to be supplanted in the future with releases that are consistent with Connecticut's streamflow regulations.

- Provision of water from MDC would draw upon the Barkhamsted and Nepaug Reservoirs in the Farmington River basin. Withdrawals would not exceed existing registered rates, and source and treatment plant improvements are not proposed. MDC is not required to release water under Connecticut's streamflow regulations; however, MDC will continue to manage releases from the West Branch Farmington River reservoirs.

- Provision of water from WWW would draw upon the Willimantic Reservoir upstream of the Natchaug River. A new or modified diversion permit would be needed as well as removal of sediment from the reservoir to maintain adequate water quality. WWW operates its source of supply as a run-of-the-river withdrawal rather than relying on reservoir storage. Mitigation could take the form of increasing releases from Mansfield Hollow Lake by the U.S. Army Corps of Engineers, although this is beyond the control of the University, Town of Mansfield, or WWW.

No direct impacts are expected to occur to surface water or groundwater as a result the installation of water mains and pipelines. The integrity of bridges and culverts will not be compromised, as water mains will be primarily installed using directional drilling or attached to bridges.

12.2.3 SOCIOECONOMICS

The provision of additional water supply to the University and Town of Mansfield is expected to have a positive impact on the local and regional socioeconomic horizon through creation of direct new employment on campus as well as indirect and induced job creation off campus. The Town of Mansfield and its neighboring communities are well positioned to absorb any incremental increase in population and housing demand resulting from new water supply, even with the land use controls that will be enacted to limit development along the pipeline route in Mansfield.

12.2.4 COMMUNITY FACILITIES AND SERVICES

The provision of additional water supply to the University and Town of Mansfield is consistent with current community services. The burden on municipal and University emergency services personnel is not expected to increase significantly.

12.2.5 AESTHETIC AND VISUAL RESOURCES

The provision of additional water supply to the University and Mansfield will enable additional development on-campus as well as in portions of northern Mansfield in areas proximate to the University's Main and Depot campuses and Agronomy Farm. On-campus development will be congruent with the architecture and building heights throughout the campus. Any off-campus development within the Town of Mansfield will be guided by local regulations relative to aesthetics and will require approval through Mansfield's Planning & Zoning Commission. Additionally, the aesthetics of pumping stations and storage tanks will need to be sited and designed such that they are congruent with the aesthetic character of the surrounding area.

12.2.6 PUBLIC UTILITIES AND SERVICES

The provision of additional water supply to the University and Town of Mansfield will increase the capacity of the University's water system. Benefits to small community, non-transient non-community, and transient non-community water systems will be realized through interconnections or direct connection to new pipelines. However, the furtherance of duplicative water service in the State (specifically in Manchester, South Windsor, Vernon, and Tolland for the MDC interconnection) is contrary to the State's statutory obligation for coordinated water supply planning. The same issue is not problematic where CWC would utilize a section of the water main owned by the Town of Tolland.

Significant adverse impacts to storm sewer, electric, gas, telephone, and cable services are not anticipated.

12.2.7 CULTURAL RESOURCES

Where pipeline is installed outside of previously disturbed public rights-of-way, sensitivity to historic or archeological resources is possible along pipeline routes in Mansfield, Tolland, Coventry, and Bolton. In such instances, site-specific investigations will be undertaken in consultation with state and local entities such that impacts to cultural resources are avoided or minimized to acceptable levels.

12.2.8 TRAFFIC, TRANSPORTATION AND PARKING

The provision of additional water supply to the University and Town of Mansfield will cause temporary impacts to traffic, as water mains will be installed in state and town roadways. No permanent impacts to traffic will occur. Individual development that occurs as a result of the availability of a source of public water supply will require site-specific review through local approval processes and, where applicable, through the Connecticut Office of State Traffic Administration (OSTA).

12.2.9 FLOOD HAZARD POTENTIAL

Installation of pipelines will have minimal impacts where they cross special flood hazard areas (SFHAs), as piping and appurtenances will be below grade.

12.2.10 BIOLOGICAL ENVIRONMENT

The majority of pipeline installation will occur where roads are currently paved and therefore do not support significant biological communities. Best practices will be undertaken to minimize disturbances to adjacent biological resources. Protection of fishery resources and fish habitats will be of paramount importance for all of the alternatives.

For the WWW alternative, increased withdrawals from the Willimantic Reservoir may adversely affect riffle and run habitats downstream of the reservoir in the Natchaug River. Removal of sediment from the Willimantic Reservoir will likely impact some wetland vegetation, although the extent and length of such impact can only be evaluated following a specific proposal for excavation. Based upon similar projects undertaken at other Connecticut Reservoirs, sediment excavation can be achieved without unacceptable impacts to wetlands or fisheries.

12.2.11 PHYSICAL ENVIRONMENT

No significant changes will occur to the physical environment as a result of provision of water to the University and Mansfield. Significant modifications to area topography are not contemplated.

12.2.12 AIR QUALITY

The provision of additional water supply to the University and Town of Mansfield will not significantly impact air quality in the Town of Mansfield or the region. Numerous controls are proposed for minimizing short-term construction related impacts to air quality from fugitive dust and other pollutant emissions.

12.2.13 NOISE QUALITY

Minor temporary noise impacts are anticipated during construction of the water pipeline. The majority of construction activities will occur in the daylight hours to minimize noise impacts. New pumping stations for the CWC, MDC, and WWW alternatives will become localized sources of noise, although such noise will be minimal.

12.2.14 SOLID WASTE AND HAZARDOUS WASTE MATERIALS

Other than temporary construction and demolition-related impacts, minimal impacts related to solid waste and hazardous materials are expected as a result of provision of water to the University and Mansfield.

12.2.15 ENERGY RESOURCES

Increases in energy usage would occur for all of the feasible alternatives. For the CWC interconnection alternative, energy will be used to withdraw additional groundwater from wells in the Western System, filter and treat additional water at the Rockville WTP, and pump water through the pipeline. For the MDC interconnection alternative, energy will be used to filter and treat additional water at the West Hartford and Bloomfield WTPs and to pump water through a series of pumping stations along the pipeline. For the WWW alternative, energy will be used to filter and treat additional water at the WTP and pump water through the pipeline.

Systems that are more proximal and at higher elevations (CWC and WWW) will use less energy than systems that are distant and at lower elevations (MDC). The periods of peak water demand at the University (late August and early September), and hence peak electrical demand for pumping and treating, does not typically coincide with peak Statewide electrical demand (typically July). Energy usage will also increase where additional water allows development; however, these are not anticipated to be regionally significant.

12.2.16 CUMULATIVE IMPACTS

Cumulative impacts are those that result from the incremental impact of the proposed action when added to other past, present, or reasonably foreseeable future actions. Cumulative impacts associated with the feasible alternatives include the following:

- Additional groundwater and/or surface water supply withdrawals;
- Interbasin transfers of water;
- Formation of additional disinfection byproducts in treated water due to higher water ages along pipelines;
- Additional water mains within roadways;
- Incremental energy demands; and
- Additional development due to expansion of public water systems.

Cumulative impacts are most likely for the alternatives that cause further diminution of flows in nearby watercourses, such as the WWW interconnection. On the other hand, CWC and MDC have a greater ability to actively mitigate for diminution of flows below their reservoirs, and the cumulative impacts will be minimized.

12.2.17 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Certain adverse impacts associated with provision of water to the University and Mansfield are unavoidable. Delivery of water to the University and Mansfield from CWC, MDC, or WWW will constitute an interbasin transfer of water and resulting loss of water from local donor basins; this cannot be avoided. The CWC and MDC alternatives would involve transfers of water from the Connecticut River major basin whereas the WWW alternative would involve the transfer of water within the Thames River major basin. CWC and MDC are capable of managing releases to downstream watercourses. WWW does not have such capabilities because it operates a run-of-the-river dam.

The project will undergo a construction phase wherein additional equipment will be utilized. Mitigation measures have been identified with respect to associated short-term air and noise quality. However, a certain degree of additional truck and equipment use and access will be necessary during this time period, which is unavoidable. Potential soil erosion and sedimentation impacts will be largely mitigated through proper construction management techniques.

Unavoidable adverse environmental impacts are possible along some of the pipelines, especially in the rural communities of Tolland, Bolton, Coventry, and Mansfield. These unavoidable adverse impacts could be mitigated by local land use regulations and zoning, with the Town of Mansfield considered most equipped and well-positioned to directly address the risks for development along pipelines. By virtue of the shorter potential pipelines, the CWC and WWW alternatives present a lesser degree of risk than the MDC alternative.

No other unavoidable adverse environmental impacts have been identified.

12.2.18 Irreversible and Irretrievable Commitment of Resources

The construction of any of the interconnection alternatives will utilize nonrenewable resources during the construction and implementation (i.e., construction supplies, fuel, personnel time, etc.). Since these resources cannot be reused, they are considered to be irreversibly and irretrievably committed. Specifically, these include the following actions:

- Clearing;
- Access road construction;
- Installation of water mains to connect to the University and Mansfield; and
- Installation of associated infrastructure, treatment plant expansions, etc.

12.3 Opportunities for Mitigation

Mitigation measures have been identified throughout this document. Table 12.3-1 provides a summary of mitigation opportunities. Additional discussion follows.

TABLE 12.3-1
Opportunities for Mitigation

Mitigation Opportunities	Alternative		
	3	4	5
	CWC	MDC	WWW
Actively manage releases to rivers located downstream of reservoirs	Yes	Yes	No
Implementation of overlay zones to reduce future development densities	Yes	Yes	Yes
Coordination with various local departments, commissions, and committees regarding proposed pipelines	Yes	Yes	Yes
Pipeline designs that hang pipe on bridges or include directional drilling to prevent direct wetland impacts	Yes	Yes	Yes
Construction occurring in the summer whenever possible to minimize traffic impacts near the University	Yes	Yes	Yes
Performing a biological survey for endangered, threatened, or special concern species during the design phase to establish buffers and construction timetables to minimize the impact to these species	Yes	Yes	Yes
Adherence to best management practices to mitigate impacts to stormwater runoff	Yes	Yes	Yes
Performance of construction activities during daylight hours to minimize noise impacts	Yes	Yes	Yes
Reduction of water age, mixing in tanks, and blending with groundwater (the University's or otherwise) to reduce DBPs	Yes	Yes	Yes
Provide benefits such as emergency interconnections with other water utilities where pipelines are contrary to exclusive service areas	No	Yes	No
Provide emergency interconnection with Tolland's municipal water system	Yes	Yes	No

12.3.1 SECONDARY GROWTH MITIGATION

The Town of Mansfield is undergoing a comprehensive and detailed revision of its regulations and has proposed an overlay zone to restrict development in areas of public water supply such that local development is consistent with the state plan. Refer to Section 4.1.3 for details. The proposed overlay zone will restrict development within potential pipeline areas for the purpose of controlling unwanted or unanticipated secondary growth.

Secondary growth mitigation is possible in other communities where potential pipeline routes traverse land that, were it developed as a direct result of the availability of public water supply, would be contrary to the State Plan, local planning and zoning designations, or local plans of conservation and development. This is the case in Tolland, Coventry, and Bolton; however, those communities have not committed to such protections at this time. In the case of Coventry and Bolton, discrepancies exist between the community's local vision and the State Plan such that mitigation through development protections may not have local support.

12.3.2 FISHERIES IMPACT MITIGATION

Under the CWC interconnection alternative, Shenipsit Reservoir withdrawals would be mitigated, as they are today, through continued releases from the Shenipsit Reservoir to the Hockanum River, to be supplanted in the future with releases that are consistent with Connecticut's

streamflow regulations. For the MDC interconnection alternative, MDC is not required to release water under Connecticut's streamflow regulations; however, MDC will continue to manage releases from the West Branch Farmington River reservoirs in accordance with various agreements. Under the WWW interconnection alternative, mitigation could take the form of additional releases from Mansfield Hollow Lake by the U.S. Army Corps of Engineers, although this is beyond the control of the University, Town of Mansfield, or WWW. Overall, CWC and MDC have a greater ability to actively mitigate for diminution of flows below their reservoirs.

12.3.3 AIR POLLUTION MITIGATION

The use of air pollution devices on construction equipment and other forms of controls that reduce the impact from fugitive dust emissions will be utilized during this project to minimize impacts to air quality. The proper phasing of construction will further minimize the length of time that soil remains exposed to wind and water. Activities will be conducted in accordance with proper protocols and regulations, and no washings will be directed to storm drainage.

Primary short-term air quality concerns relate to construction activities and their potential to generate fugitive dust and mobile source emissions. Such sources of dust are attributed to construction vehicle disturbance during hauling, loading, dumping, excavation, and bulldozing on any areas of the proposed development. Meteorological conditions and the intensity of the activities as well as soil moisture content also govern the extent to which particles will become airborne.

Various methods of controlling fugitive dust include the use of water or wetting agents on exposed soil and gravel areas, periodic sweeping and daily rinsing of truck tires, and proper maintenance of portable generators, on-site machinery, and vehicles. Additionally, the following best management practices will be incorporated as appropriate in the construction phase of this project:

- Minimization of exposed erodible earth area
- Stabilization of exposed earth with grass, pavement, or other cover as early as possible
- Application of a stabilizing agent to the work areas and haul roads
- Covering, shielding, or stabilizing stockpiled material as necessary
- Use of covered haul trucks
- Rinsing construction equipment during the incidental transport of soil from unpaved to paved surfaces to minimize drag-out

Even well-maintained trucks and other construction equipment typically emit small amounts of pollutants such as nitrogen oxides, sulfur oxides, and carbon monoxide related to internal combustion or diesel engines. Proper maintenance of portable generators, on-site machinery, and vehicles is, thus, important to reduce the potential for higher smoke emissions associated with improperly operating equipment. Contractors will be responsible for maintaining all construction equipment and will be required to comply with the university's *Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors* manual dated February 18, 2010.

Off-site tracking occurs when residual soil particles are displaced from construction sites onto higher traffic roadways and then become both airborne and waterborne. These measures will also control dust from exposed soil or gravel areas to further minimize airborne particulate matter.

12.4 CERTIFICATES, PERMITS AND APPROVALS

The proposed project will be subject to environmental certificates, permits, and approvals listed in Table 12.4-1 below. Additional permits or approvals may be identified by review agencies during the design process.

TABLE 12.4-1
List of Potentially Required Construction Permits

Permit/Approval	Reviewing Authority
Water Diversion Permit	CT DEEP
401 Water Quality Certificate	CT DEEP
Flood Management Certification	CT DEEP
Inland Wetlands Permit	CT DEEP
Stormwater Permit	CT DEEP
Construction Dewatering Permit	CT DEEP
Hydrostatic Discharge Pressure Testing Wastewater Permit	CT DEEP
Section 404 Permit	USACE
Encroachment Permits	CT DOT
Railroad crossing permit	RailAmerica, Inc.
Pumping stations	Connecticut DPH
Storage tanks	Connecticut DPH
Treatment plant improvements	Connecticut DPH
Sale of Excess Water Permits	Connecticut DPH
Water main extensions	Connecticut DPH
Building Permits for Pumping Stations	Various Municipalities
Town Road Work Permits	Various Municipalities

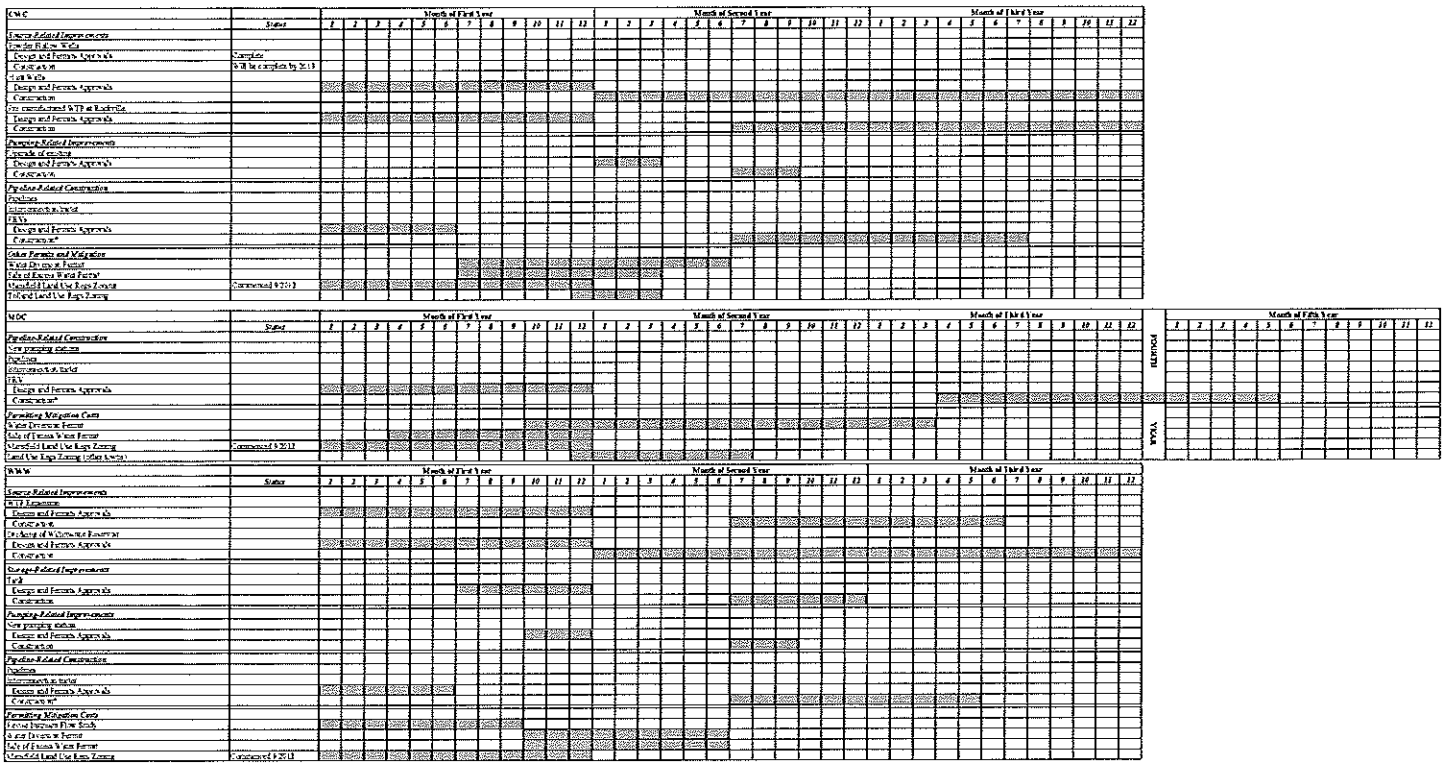
12.5 SCHEDULE

Table 12.5-1 presents an anticipated timeline for the feasible alternatives. Overall project durations are as follows:

- CWC Interconnection.....3 years
- MDC Interconnection.....4.5 years
- WWW Interconnection.....3 years

To provide for a uniform schedule for each feasible alternative, differences in pipeline routing scenarios have not been taken into account. For each alternative, the assumption is that the least-cost scenario has been selected. Furthermore, all of the pipeline costs include five months of shut-down for the period of November through March when paving is suspended.
The longest construction schedule (70 weeks for an MDC pipeline) includes two five-month shut-downs, whereas the CWC and WWW pipelines include one five-month shut-down.

TABLE 12-6.1
TIMELINE FOR EACH ALTERNATIVE



*Total duration assumes a loss of five months for water passing shutdown November through March.

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The Town of Mansfield has already begun the process of modifying land use regulations and zoning. Although the Town's broader planning effort will continue through 2015, the land use regulation revisions and overlay zoning will likely be in place by 2014. As such, all of the timelines depict a 12-month schedule "remaining" for the land use mitigation in Mansfield. This is consistent with an EIE approval by OPM in 2013.

Additional assumptions and discussion are provided below.

CWC Interconnection

A 36-month schedule is estimated. Important assumptions include:

- Improvements to the Powder Hollow Wellfield will have been completed before the timeline begins, as these improvements are currently underway.
- Design and permitting/approvals would commence immediately for the Hunt Wellfield improvements, Rockville WTP, and the pipeline with related improvements to pumping and pressure reduction. The approvals included in this timing may include the following from DPH: well site approval for the Hunt Wellfield improvements, treatment plant approval for the Rockville WTP package plant, water main approval for the pipeline, and pumping station approval for the Tolland pumping station upgrade.
- Construction at the Hunt Wellfield would commence immediately following design and the site-specific DPH approvals.
- The water diversion permit application and sale of excess water application would be filed with the Connecticut Department of Energy and Environmental Protection (CT DEEP) and the Connecticut Department of Public Health (DPH), respectively, at the end of the pipeline design. This timing is necessary, as the designs could be incorporated into the permit applications.
- Construction of the Rockville WTP package plant, pipeline, and Tolland pumping station upgrades would be deferred to the completion of the water diversion permit and sale of excess water permit processes.

MDC Interconnection

A 53-month schedule is estimated. Important assumptions include:

- Design and permitting/approvals would commence immediately for the pipeline, pumping stations, and pressure-reducing station. The approvals included in this timing may include the following from DPH: water main approval for the pipeline, pumping station approvals, and treatment system approvals for the re-chlorination stations installed at pumping stations.
- The sale of excess water permitting process would occur parallel with the year-long design process.
- The water diversion permit application would be filed with CT DEEP toward the end of the design process. This timing is necessary, as the design could be incorporated into the permit application.
- Construction of the pipeline and pumping stations would be deferred to the completion of the water diversion permit process.

WWW Interconnection

A 36-month schedule is estimated. Important assumptions include:

- Design and permitting/approvals would commence immediately for the WTP expansion and the pipeline with related improvements to pumping. The approvals included in this timing may include the following from DPH: treatment plant approval for the expansion and water main approval for the pipeline.
- Design and permitting/approvals may start at any time during the initial years for the new tank and pumping station. The approvals included in this timing may include the following from DPH: pumping station approval and storage tank approval.
- Design would commence immediately for the dredging of the Willimantic Reservoir and securing the necessary approvals from CT DEEP and DPH. The permitting process for hydraulic dredging is more rapid than the permitting process for sediment excavation through mechanical means, but a full year has been provided for permitting combined with design regardless of the selected method.
- Revision of the Natchaug River instream flow study would commence immediately along with the design processes described above.
- Immediately following the revision of the instream flow study, and toward the end of the design processes for the WTP expansion and pipeline, the water diversion permit applications and sale of excess water application would be filed with CT DEEP and DPH, respectively. This timing is necessary, as the designs could be incorporated into the permit applications.
- Sediment removal would commence immediately following its associated design and permitting.
- Construction of the WTP expansion, pipeline, tank, and pumping station would be deferred to the completion of the water diversion permit and sale of excess water permit processes.

12.6 COSTS AND BENEFITS

Table 12.6-1 presents a summary of capital costs associated with the feasible alternatives, as well as a normalized cost per million gallons (MG) of water. Table 12.6-2 presents a comparison of potential water rates for residential and commercial customers using the Public Utility Regulatory Authority (PURA) annual household consumption value. For this analysis, commercial customers are assumed to consume an equal amount of water as residential customers, and the estimates include any applicable service charges (though not initial construction and connection fees which would be borne by the consumer).

TABLE 12.6-1
Summary of Estimated Interconnection Costs

	CWC Interconnection	MDC Interconnection	WWW Interconnection
Capital Cost	$20,113,200	$51,276,000	$44,377,800
Normalized per MG*	$10,056,600	$25,638,000	$22,188,900

*Assumes 2.0 mgd

TABLE 12.6-2
Summary of Average Annual Water Costs to Customers

Public Water System	Residential	Commercial
CWC	$643	$577
MDC	$549	$549
WWW	$371	$371
Town of Tolland	$413	$413
University of Connecticut	$393	$393

Sources: CWC website, MDC Website, WWW, Tolland Water Commission, UConn, Tighe & Bond
Note: Tolland rates assume that an equal amount of water is used each quarter.

Although this EIE has not estimated additional energy costs for the alternatives, the water systems that are more proximal and at higher elevations (CWC and WWW) will use less energy than systems that are distant and at lower elevations (MDC) to move water to the University and Mansfield.

The following positive benefits are expected to occur as a result of the construction of or connection to additional sources of water supply:

- Increase the University water system's MOS to above 1.15 for the 50-year planning period while meeting the four committed demands.
- Enable the appropriate supply of public water to proposed expansions on the University campus, such as the University Technology Park and redeveloped facilities at the Depot Campus as outlined in the University of Connecticut Academic Plan that will result in an overall improvement of the campus environment.
- Provide additional redundancy and flexibility to the University of Connecticut water system.
- Allow for the University to reduce potential impacts to fisheries within the Willimantic and Fenton rivers during low streamflow periods by utilizing water supply from a less sensitive area.
- Supply the Mansfield Four Corners area with public water supply, eliminating the need for utilizing existing wells in a historically contaminated area and spurring redevelopment of this area that is one of the gateways to the University of Connecticut.
- Enable the appropriate supply of public water to proposed growth areas identified in the Town of Mansfield *Plan of Conservation and Development.*
- The potential for supply redundancy to one or more small community water systems in Mansfield, as well as a potential increase in access to public water for adjacent residents with low-yielding wells or wells with poor water quality.
- Temporary engineering and construction jobs related to implementing the eventual project, as well as additional long-term jobs in the proposed University Technology Park, the

redeveloped buildings on the Depot Campus, and in commercial developments in Mansfield Four Corners.

12.7 TECHNICAL, MANAGERIAL, AND FINANCIAL CAPACITIES

Numerous options are available relative to ownership of supply systems and provision of service. Each is discussed below.

12.7.1 UNIVERSITY OF CONNECTICUT

At present, the University owns the supply sources and transmission appurtenances, and all off-campus connections are customers of the University. Under any of the feasible alternatives, the University has the ability to contract with the source utility (i.e. CWC, MDC or WWW) to purchase water for use on- or off-campus. The University has gone on record that its role as a water supplier is not central to its mission as an educational institution and that it does not have a desire to expand its current role with regard to water supply.

The University has demonstrated its technical, managerial, and financial capacity over years of operating its supply system and can continue to do so in the future. As noted in the University's *Water and Wastewater Master Plan*, "*the current contract operations agreement between the University and New England Water Utility Services, Inc. (NEWUS), along with a continued vigilance on the part of the University, is currently resulting in proper system management.*"

12.7.2 TOWN OF MANSFIELD

Under all of the feasible alternatives, the Town of Mansfield could potentially become a public water utility, regardless of the source of supply. Mansfield could become a consecutive water supplier, purchasing water from the University, CWC, MDC, or WWW. The Town of Mansfield has demonstrated its capabilities relative to public water supply. In particular, the Town has prepared a comprehensive water supply plan; is an active participant on the University's Water and Wastewater Advisory Committee; and has undertaken investigations of potential groundwater supplies. As a municipality, the Town does not currently have the technical ability to run a water system; however, as in many other municipalities throughout the state, contract operation of a municipal water system is an option. The Town is believed to have the financial and managerial capacity required to operate a consecutive water system.

12.7.3 OTHER ENTITIES

While possible, it is unlikely that MDC or WWW would directly serve customers within the Town of Mansfield, with the possible exception of customers in the southern part of Mansfield directly adjacent to WWW's existing distribution system. Under the MDC and WWW interconnection alternatives, either the University or a consecutive water system, including possibly the Town of Mansfield, would likely become the water purveyor.

Under the CWC interconnection alternative, CWC could sell treated water to the University as well as directly serve areas within the Town of Mansfield that require water service. Alternately,

CWC could operate a consecutive[1] water system that purchases water from the University for resale in Mansfield Four Corners and other areas of the Town of Mansfield that require water service. In this scenario, customers along the interconnection route would become direct customers of CWC with some exceptions. For instance, existing Town of Tolland customers along Route 195 would remain Town of Tolland customers (although they could be served with CWC water as described above). New water mains associated with the North Hillside Road extension could be owned and operated by the University. Alternately, any Tech Park site occupants that are not directly affiliated with the University could be direct CWC customers. CWC already possess technical, managerial, and financial capacities as a viable water purveyor. CWC supplies wholesale water supplies to other public water systems and therefore has policies in place to continue doing so.

WWW does not currently serve water to any other water systems and therefore would have a somewhat limited institutional capacity to begin selling water via a wholesale agreement, but it is likely that WWW could effectively supply water to the University.

12.8 PREFERRED ALTERNATIVE

In light of the foregoing analysis, three alternatives are potentially feasible, with the ability to meet the project purpose and need. While the degree and types of potential impacts vary among the alternatives, none is believed to cause significant adverse environmental impacts that cannot be mitigated. For the CWC and WWW alternatives, potential impact is similar among the alternate routing scenarios within each alternative. For the MDC interconnection, routing alternative #4B will result in significantly fewer land use conflicts between existing land uses, local zoning regulations, and the State *Conservation and Development Policies Plan.* In all cases of conflict, land use overlay zones could overcome such inconsistencies; however, at the present time, only the Town of Mansfield has committed to such a course.

Issues of cost, phasing, and financing will be critical to the ultimate action taken. Financial feasibility and project affordability will be informed by funding sources, cost sharing arrangements, financing mechanisms, and project phasing. Project affordability includes the total cost of ownership over time in combination with how that cost might be shared among the parties who will be the beneficiaries.

Each of the interconnection alternatives must overcome financial, technical, regulatory, and contractual hurdles to become a reality, any one of which could prevent the alternative from moving forward. As such, it is the University's intent to proceed with multiple potential "preferred" alternatives for interconnection with CWC, MDC, or WWW.

[1] A consecutive water system is a water system that has no water source of its own, but rather purchases water from another water company for resale in its service area.

Mansfield Tomorrow
OUR PLAN ▶ OUR FUTURE

November 2012 Update

Steering Committee-Goody Clancy will attend a special meeting of the Planning and Zoning Commission on Monday, December 17 at 5:30 pm. PZC will appoint a Steering Committee representing relevant boards and commissions, residents, business and property owners, university affiliates and others with a stake in Mansfield's Future.

- The first steering committee meeting is scheduled for January 17th at 7:30 pm. The Steering Committee is expected to meet 5 times in January through May. Details will follow.

Working Groups-A small group of people, both staff and local stakeholders with professional, technical or other expertise in the particular subject matter will assist the planning team in developing the strategy reports for housing, economic development, and agriculture.

- The working groups are scheduled to meet twice each between February and April 2013.

Website **(www.mansfieldtomorrow.com)-** Goody Clancy will present the project website for staff review by December 7th, with a "soft opening" for PZC expected for December 17th. The website will be open to the public by January 2nd.

Public Engagement Strategy-Goody Clancy and PlaceMatters will have a comprehensive public engagement strategy for staff review by November 27th.

Sustainable Design and Green Building Action Plan-Goody Clancy, in conjunction with Farr Associates and Milone and McBroom, is in the process of developing/identifying a comprehensive assessment tool. The sustainability Committee will be asked to provide feedback on this tool prior to proceeding with the assessment process.

Upcoming Events

- *Thursday, December 6th* Tech Park Public Information Session- 7 pm Mansfield Council Chambers
- *Monday, December 17th*, Goody Clancy to meet with PZC 5:30 pm Mansfield Council Chambers
- *Monday, December 17th* all day Community Interviews- Mansfield Community Center Conference Room- Larissa will forward suggested stakeholders
- *Thursday, January 17th* First Steering Committee Meeting (tentative)
- *Wednesday, January 30th* –Project Kick off Meeting (tentative)
- *Saturday, February 23rd* 10 am Farmers' Forum (tentative)
- *Saturday, March 2nd* or Saturday March 9th Community Visioning Session (tentative)

PAGE
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UCONN STUDENTS LIVING ON-CAMPUS AT STORRS, 1990-2012
UPDATED AS OF NOVEMBER, 2012

Acad. Year	Undergrad./ Non-Degree	Grad.	Total
Fall, 1992	7,628	424	8,052
Spring, 1993	6,889	428	7,317
Fall, 1993	7,152	465	7,615
Spring, 1994	6,390	456	6,846
Fall, 1994	6,702	421	7,123
Spring, 1995	6,100	414	6,514
Fall, 1995	6,567	390	6,957
Spring, 1996	6,020	410	6,430
Fall, 1996	6,675	414	7,089
Spring, 1997	6,089	372	6,471
Fall, 1997	6,473	418	6,819
Spring, 1998	5,969	378	6,347
Fall, 1998	7,212	414	7,626
Spring, 1999	6,635	417	7,052
Fall, 1999	7,818	430	8,248
Spring, 2000	7,142	411	7,553
Fall, 2000	8,259	440	8,699
Spring, 2001	7,952	421	8,373
Fall, 2001	9,247	543	9,790
Spring, 2002	8223	425	8,648
Fall, 2002	9,868	449	10,317
Spring, 2003	9,409	560	9,969
Fall, 2003	10,567	423	10,990
Spring, 2004	10,257	485	10,742
Fall, 2004	10,658	497	11,155
Spring, 2005	10,323	509	10,832
Fall, 2005	11,010	514	11,524
Spring, 2006	10,731	416	11,147
Fall, 2006	11,135	512	11,647
Spring, 2007	10,749	490	11,239
Fall, 2007	10,751	556	11,307
Spring, 2008	10,322	519	10,841
Fall, 2008	11,427	523	11,970
Spring 2009	11,025	492	11,517
Fall, 2009	11,912	403	12,315
Spring, 2010	11,599	372	11,971
Fall, 2010	12,247	299	12,546
Spring, 2011	11,842	279	12,121
Fall, 2011	12,290	210	12,341
Spring, 2012	12,040	180	12,220
Fall, 2012	12,241	228	12,469

**These numbers include Mansfield Apartments as well as Northwood Apartments, Charter Oak and Hilltop Apartments. Since Fall of 2007 these numbers include all complexes that are part of the Residential Life housing stock.
Source: Division of Student Affairs, Housing Services, University of Connecticut

UCONN STUDENTS ENROLLED AT STORRS CAMPUS, 1990-2012
UPDATED AS OF NOVEMBER, 2012

Academic Year	Undergrad. F/T	Undergrad. P/T	Total Undergrad.	Total Grad.	Total
Fall, 1992	11,321	1,170	12,491	4,399	16,890
Spring, 1993	10,353	1,228	11,581	4,206	15,787
Fall, 1993	10,830	1,075	11,905	4,549	16,454
Spring, 1994	9,849	1,149	10,998	4,229	15,227
Fall, 1994	10,328	1,058	11,386	4,503	15,889
Spring, 1995	9,546	1,144	10,690	4,118 (est.)	14,808
Fall, 1995	10,271	1,059	11,330	4,405	15,735
Spring, 1996	9,475	1,184	10,629	4,068	14,697
Fall, 1996	10,271	1,059	11,330	4,405	15,735
Spring, 1997	9,557	1,106	10,663	3,882	14,545
Fall, 1997	10,362	956	11,318	3,863	15,181
Spring, 1998	9,567	1,142	10,709	3,287	14,355
Fall, 1998	10,740	942	11,682	3,646	15,328
Spring, 1999	9,894	732	10,626	3,187	13,813
Fall, 1999	11,411	576	11,987	3,347	15,334
Spring, 2000	10,662	718	11,380	3,152	14,532
Fall, 2000	12,234	728	12,962	3,246	16,708
Spring, 2001	11,309	728	12,037	3,222	15,259
Fall, 2001	13,017	571	13,588	3,367	16,955
Spring, 2002	12,103	928	13,031	2,867	15,898
Fall, 2002	13,688	525	14,213	3,705	17,918
Spring, 2003	13, 136	869	14,005	3,539	17,865
Fall, 2003	14,318	845	15,163	3,927	19,090
Spring, 2004	13,642	899	14,541	3,815	18,507
Fall, 2004	14,752	508	15,722	3,692	19,857
Spring, 2005	14,170	937	15,107	3,807	19,073
Fall, 2005	15,277	814	16,091	4,031	20,122
Spring, 2006	14,482	843	15,325	3,851	19,176
Fall, 2006	15,594	745	16,339	3,834	20,173
Spring, 2007	15,027	1,056	16,083	3,408	19,491
Fall, 2007	15,607	733	16,340	3,845	20,185
Spring, 2008	15,693	776	16,469	3,790	20,259
Fall, 2008	16,073	681	16,754	4,009	20,763
Spring, 2009	16,135	785	16,920	3,795	20,715
Fall, 2009	16,325	671	16,996	4,019	21,015
Spring, 2010	15,732	757	16,489	3,830	20,319
Fall, 2010	16,614	717	17,331	4,172	21,503
Spring, 2011	16,028	801	16,829	3,907	20,736
Fall, 2011	17,057	751	17,808	4,202	22,010
Spring, 2012	16,452	832	17,284	3,913	21,197
Fall, 2012	16,727	790	17,517	4,168	21,685

ZONING BOARD OF APPEALS

DECISION NOTICE

On November 14, 2012, the Mansfield Zoning Board of Appeals took the following action:

Approved the application of Edward Drinkuth for a variance of Art VIII, Sec A to construct a 20' x 28' garage located 50' from the front property line where 60' is required, at 95 Hillcrest Dr.

In favor of approving application: Brosseau, Accorsi, Hammer, Katz, Welch

Reason for voting in favor of application:

- Topography

Application was approved.

Additional information is available in the Town Clerk's Office.

Dated November 15, 2012

Sarah Accorsi
Chairman

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